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RACE IN RELIGION.*

THE PLACE OF POSITIVISM.

ANTHROPOLOGY is gradually widening its base and enlarging its arena. Its practice is approaching more nearly to its theory. As the science of man, nothing human is really foreign to it. Above all, no religion or philosophy can be regarded as altogether alien to its inquiries. Whether as effects or causes, the beliefs and opinions of mankind are worthy of all attention by the anthropological student. Here we may behold the accumulated results of the past, and, in a measure, the plastic forces of the present. Religions and philosophies are not accidents, but the normal product, the necessary consequence, of antecedent conditions. They were not made by art, but have grown in obedience to law. They come and they depart at their appointed season. They have their cycle of growth, splendour, and decay, like those great political empires, which constitute the more prominent features of history. In truth, they are empires of the mind, built up by the labours and sacrifices of many successive generations, and beneath whose shadow, in the day of their power, the mightiest are fain to seek refuge. And we live in an age, it may be remarked, peculiarly

* *A General View of Positivism.* Translated from the French of Auguste Comte, by J. H. Bridges. London: Trübner and Co.

The Catechism of Positive Religion. Translated from the French of Auguste Comte, by Richard Congreve. London: John Chapman.

The New Religion in its Attitude towards the Old; The Propagation of the Religion of Humanity. By Richard Congreve. London: John Chapman.

Auguste Comte and Positivism. By John Stuart Mill. London: Trübner and Co.

The Unity of Comte's Life and Doctrine. By J. H. Bridges. London: Trübner and Co.

favourable to an investigation of the laws which regulate their production and dissolution—an age of analysis and disintegration, when authority is dethroned and power is held in abeyance, and when, consequently, there is not only liberty to think, but also license to speak. In the middle ages, it would not have been possible to thoroughly criticise either the Catholic Church or the Aristotelian philosophy. But it is otherwise now, when the old Phoenix is in the fire, and the world re-echoes with her harmonious death-song; and we are at liberty to question everything, faith and philosophy not excepted.

There can be no doubt that forms of thought and modes of feeling are largely racial; that is, they originate in the specialities of mental constitution attaching to the different divisions of mankind. And an important part of our duty as anthropologists, is to study these specialities and trace their effects, as manifested in the creeds, codes, philosophy, literature, and art of various nations and successive ages. Their creed is the grandest outcome of a people. In it their deepest convictions and highest aspirations were once embodied. And if they be so no longer, if there be a school of thought outside of the church, higher and purer, larger and nobler in its teachings than anything within it, then is such a church infallibly doomed, however long its sentence may be delayed. Olympus was condemned in the very words with which Socrates taught his disciples; while Jupiter stood as a criminal at the bar over which Plato presided as a judge.

The interaction between faith and philosophy is much greater than is usually supposed. The *à priori* schoolmen flourished in conjunction with the Catholic church. Protestantism and the reign of induction came in together; the former being an appeal from authority to reason, in matters theological; and the latter being a similar appeal to facts, in the domain of science. In both departments there was the same descent from unity to multiplicity, from one church to many sects, and from a few principles to an indefinite number of "instances". In the largest view of the subject, it may perhaps be said that philosophy is the sphere of growth, religion of conservation; the intuitions of genius being ultimately sanctified as articles of faith.

To fully understand our present position, in reference either to faith or philosophy, it must be remembered that we live, not at the beginning or even in the middle, but obviously towards the end of a disintegrative era. What the ages of faith laboriously built up, the ages of doubt have assiduously pulled down. But the one process is as essentially temporary as the other. True analysis is ever but a preparation for synthesis; destruction is only transformation, the gate of death being simply a portal to the temple of life. Of neces-

sity, then, an age of re-edification awaits us; and that, too, in all probability, at an era not immeasurably remote. Already, indeed, the signs of its approaching advent are distinctly visible. The age of revolution and anarchy is drawing to a close. Men are becoming weary of commotion, and ask everywhere for a strong government, adequate to the suppression of aimless insurrection. While even the churches, forgetting their old *odium theologicum*, seem desirous to coalesce, as if conscious that it is becoming necessary to close up their disordered ranks, and present a united front to the common enemy.

Of this movement towards re-edification, Positivism, whether as a religion or a philosophy, was both a sign and a product. We may define it as a rather premature, though really grand and gigantic, attempt at the synthesis of universal knowledge; while Auguste Comte was a still more premature, and so utterly unsuccessful attempt at the performance of "the coming man". Both portents, however, of no mean significance; shadows whose substances are doubtless somewhere behind. Of Positivism in its relation to science, we do not here intend to speak at any length. Whatever may be thought of its "systematisation", we suppose all competent judges are of opinion that the sooner the positive mode of explaining phenomena supersedes the theological and metaphysical, the better. Here, then, Comte did real and appreciable work. But unfortunately, like many other great men, he lived rather too long. He outgrew his true vocation, and set himself up, not only as the hierophant, but also as the prophet and law-giver of a universal faith. This is a rather melancholy subject; but it concerns us, as anthropologists, more nearly than any other portion of his life and labours. It, moreover, involves ideas that are not peculiar to M. Comte, which he inherited from antecedent or adopted from coexistent systems, and which, therefore, have an interest for us quite independently of their relationship to Positivism.

The Positive religion commences with a dreadful solecism—it has no God! a circumference without a centre. What a beautiful illustration of race. Here is a French master mind turned prophet, and cannot find a God to worship; and so sets up select humanity, the *Grand Être*, in his place! Nor is this all; for in his ritual he ordains that prayers shall be said, not to humanity as the male, or as the male and female in combination, but specially to woman, as the mother, wife, and daughter, the incarnate past, present, and future of the race! Now, supposing that in place of an Indo-European Gaul, with his strong Pantheistic proclivities,—for the Positive religion is simply a phase of Pantheism,—a faith had been founded in our day, by a seer of purely Semitic type and descent, does any an-

thropologist doubt that a God would have been at the centre of it? And does anyone suppose that, in such a case, women or a woman would have been made an object of worship in it? And this godless, feminine faith, was expected by its polite expounder to prevail, not only over Aryanised Europe—moderately well prepared for it, we must admit, by the worship of the Virgin and the invocation of Saints—but it was also expected to satisfy the godward aspirations and sublime yearnings of the monotheistic Semites of Western Asia!

No doubt a new faith is coming, and that, too, over an unequalled geographical area. The vast amount of thought and knowledge, the accumulated product of modern civilisation, lying on the outside of our existing creed, indicates a growing necessity for the expansion of religious belief. We want a faith that will harmonise with the literature and science of modern times. We want a religion abreast with the age, and looking prophetically forward to the future, rather than retrospectively back into the past. We require a belief in harmony with our intellectual development, the product not simply of defunct wisdom, but also of living conviction. And this faith, once originated and established among the leading nations of the world, must have a geographical range previously unexampled. The railway and the steamboat utterly forbid the perpetuation of existing territorial limitations in language and creed. The interaction of nations and races increases every day, and must ultimately sweep down many of the barriers that formerly kept even allied peoples in a state of isolation from each other. But then, one of the conditions on which this faith can be accepted over the ever expanding area of modern civilisation, and so effect the gradual, if not rapid, displacement of existing creeds is, that it shall in no department fall short of the highest tidemark of any of its predecessors. It must have no Polytheism, or Tritheism, or Pantheism, or Atheism to disgust its Semitic votaries; while it must be expansive, receptive, æsthetic, and philosophic enough to satisfy the most intellectual requirements of its Indo-European converts. And it must be all this to prove even a Caucasian faith, to enlist the sympathies of humanity, from the Ganges to the Thames. But even granting it were all this, does any anthropologist suppose it could prevail over so large an area and among so many different types, without extensive local adaptations and modifications, more especially in its ritual, to accommodate it to the wants and habitudes, the taste and feelings, of its racially varied converts? And what shall we say, in such a consideration, to the Mongolic nations of Eastern Asia, the great upholders of existing Buddhism, or the African Negroes with their grovelling Fetish worship; or, we may add, the outstanding savages of any continent?

But, quite independently of racial considerations, the religious system of Auguste Comte clearly demonstrates that, whatever else he may have studied, he most assuredly had not mastered the laws which regulate the generation and succession of creeds. He did not build on the old foundations. A fatal error. Why, there is no example on record of a faith emerging into great and enduring power, except as the lineal successor of some predecessor. Judaism built on the patriarchal theology, and Christianity rests on Judaic foundations, while the faith of Islam accepts and professes to supplement all three. Jupiter was not supposed to deny the divinity of Saturn; he only superseded him. This subject of *growth* in the progress of society is, it would seem, but very imperfectly understood; and hence the many absurd and abortive attempts at reconstruction, whether in the religious, political, or social sphere, of which these latter generations have been the witness. And yet the experience of all time demonstrates that religion and politics cannot be fundamentally and yet suddenly remodelled. Society, whether as a whole or in any of its more important departments, is much too complex, and depends on too many varied forces for its movement, to permit of its being taken to pieces and put together again, at the pleasure of any merely human designer. It is, in truth, a vast moral organism, at a certain stage of development; and can no more be made or remade than a tree or an animal. It grows as we have said, and it may be added, after the true organic fashion, by a constant assimilation of appropriate elements from without; and consequently all that any individual can hope to accomplish, is but to contribute his quota of thought or effort to the sum total of results. But few ardent reformers are prepared to submit to this. They have not, it is to be feared, sufficient faith in the laws of nature, for this wise yet lowly dependance upon their efficient operation. They cannot quietly let things take their course. They are too impatient to wait for results; they want to force them. They place too much confidence in art—their own art—wherewith they foolishly hope to supersede the grander processes, and forestall the slower results of nature.

These remarks do not apply especially to Auguste Comte. They are yet more applicable to St. Simon, Fourier, Owen, and the leaders of socialism and communism generally. Neither did Comte fall into the most grievous of all errors, which is the endeavour to refund society without religion. He clearly saw that a creed and a ritual are necessities; and he simply failed in providing such as would satisfy the higher requirements of humanity. The real interest of Positivism, however, to an anthropologist, is not its relation to Auguste Comte as an individual, but to the age in which he lived, and of

whose tendencies he regarded himself as a befitting exponent. To fully understand the place of Positivism, to know its vocation in the world, nay to clearly perceive that it had a recognisable place and vocation at all, we must comprehend the real character and grander inspiration of the age in which it appeared, and this implies a historical survey of considerable extent.

Nothing is more clear than the continuity of the current of civilisation; it has had its ebbs and its flows, its high tide and its low tide, but it has remained throughout an unbroken stream. At this hour, not only the mechanical arts, but the literature, philosophy and religion of the most advanced nations, are indebted to elements, inherited from Etruscan, Egyptian, Assyrian and Hindoo systems of culture that meet us at the dawn of authentic history. The rise and fall of empires, the growth and decay of faiths, are not to be viewed in the light of exceptional catastrophes. There is nothing abnormal in such events; they are, on the contrary, the normal phenomena necessarily attendant on the process of progression.

History has obviously lost some of its earlier chapters. Not to mention the Etruscan and Cyclopean civilisation of Europe, it is obvious that a mighty drama was transacted in the East, of which we have but very imperfect records. The great Aryan emigration, that carried a European race to the Ganges, or bore an Asian race to the Thames, as we may be pleased to interpret the yet doubtful oracles of philology and tradition, what do we really know of it, except the fact of its occurrence, demonstrated by the lingual and racial effects which it has left for our investigation? And that great and almost prehistoric cycle of Semitic civilisation, whereof Egyptian, Phœnician, Assyrian, Babylonian and Jewish culture were the several parts, how little do we know of its origin and splendour! Nay, how imperfect is our acquaintance even with its decline! What was its mundane function? What mission did it discharge to humanity as a whole? What was its transmitted effect upon classic civilisation? and how, through Judaism more especially, has it directly influenced the belief, and through it the philosophy, the literature and the entire moral and intellectual life of modern Europe? It is by such questions that we discover, if not the extent of our ignorance, at least the very narrow limitations of our knowledge.

Perhaps it may suffice us for the present to observe, that a grand process of edification went on, in that remote age and in that far eastern land, of which Judaism may be regarded as the great theological result, the highest form in which its theosophy finally crystallised into enduring shape, for transmission to posterity. And while religion was being thus duly cultured by the Semites, philosophy was

proportionately developed by the Aryans, who, as Persians, ultimately emerged into political supremacy on the ruins of Semitic power. Altogether, as we have observed, there was obviously a grand process of spiritual as well as political edification transacted in that remote age, of which we have inherited the results, though we are but imperfectly acquainted with the processes by which they were produced. To recur to our former figure, it was a great flood tide, that has left us, among other things, the Pyramids and the ruins of Thebes, the hieroglyphics and the cuneiform inscriptions, the Veda, the Avesta, and the Pentateuch.

But these great periods of edification are always followed by others of almost proportionate dilapidation, synthesis being supplemented by analysis, as life is followed by death, and day by night in the cyclical revolutions of nature. A time came when Asiatic thought-forms were to be subjected to the rather destructive process of European criticism. The earlier Ionian philosophy and the Pythagorean system of Magna Græcia show us the advancing waves of the great eastern inundation, as it impinged upon the classic races of the west. Under the reign of the Sophists antiquity was treated with some respect, but the Socratic method was fatal to a blind reverence, especially among a people so naturally analytical as the Greeks. Platonism was oriental theosophy robed in the intellectual vestments of philosophy. It was eastern faith, after its first Hellenian baptism. Under the Stagyrte, the European mind, as contradistinguished from the Asiatic, emerged into the full force of its strongly marked individuality, and that age of criticism was formally inaugurated which, commencing with Socrates, ended in the downfall of Olympus, and we may say the subversion of classic civilisation. Ere Alaric could enter Rome, it was necessary, not only that Cæsar should be conquered, but that Jove should be dethroned. We quite misunderstand matters when we think that everything was due to "the northern barbarians." The collapse of classic civilisation was entire, and implied the subsidence not merely of political power but also of traditional faith.

It is doubtful if we yet fully understand what "the decline and fall of the Roman empire" really meant. It was more than the fall of merely classic civilisation. It was the collapse of the ancient imperial system altogether, so that the world has never since seen its repetition, and never will again see it in its integrity, as a manifestation of purely physical force. The next great empire must be moral, for empire, as we hope hereafter to show, is inevitably coming, the empire of the west, the preparation for which is the existing diffusion of Semitic faith, over the entire area of Greek and Roman civilisation, under the rival yet allied standards of the cross and the crescent.

Thus, then, we are landed at the dawn of another period of spiritual synthesis, eventuating in the double pontificate of the Christian popes and Mohammedan caliphs.

To fully understand the rise of this duplex spiritual power upon the ruins of the political edifice which had preceded it, we should remember that Rome was the summation of the ancient imperial system, and the grandest instance of political synthesis upon record. In her the merely military phase of empire culminated, and in doing so became partially moral, as we see by her code, that enduring evidence of her wisdom and experience in legislation. The truly moral or rather spiritual phase of the Roman empire was however manifested in the papacy and the caliphate, and in the former more purely than the latter.

"The ages of faith" were a period of edification, during which the Catholic church sedulously endeavoured to build up the waste places of the earth. Sustained by a sublime inspiration, she laboured to reduce chaotic multiplicity and confusion to the order and beauty of a unitary creation. She sought to make one creed—her own; one language—the Latin; and one philosophy—the Aristotelian; or rather that of the schools, which somewhat inappropriately bore this name,—suffice for all the higher requirements of humanity. We should not blame her for this. It was a necessity of the age. It was simply the flood tide, that has left us the splendour of our cathedrals and the ruins of our abbeys, as its memorial wavemark on the sands of time. And it is a somewhat noteworthy coincidence that, as architecture and statuary attained most nearly to perfection during the declining ages of classic heathenism as a faith, when the elements of thought, that in their union with Judaism afterwards crystallised into Christianity, were in the process of elaboration, so again architecture and painting attained to their culmination in the Catholic church just previous to the Reformation, while the principles that afterwards eventuated in Protestantism were in a state of preparatory fermentation. These things are not accidents. They are obviously the product of a law, whose operation we should investigate, in the hope of attaining to an intelligible solution of its phenomena.

Is not this efflorescence of the fine arts towards the termination of a faith a phenomenon akin to the corresponding development of literature and philosophy? The Greek intellect not only produced Phidias and Praxiteles, but also Æschylus and Plato, as rays of that sunset splendour wherewith the Olympian faith bid the world its grand adieu. So also the Catholic church not only gave us Raphael and Michael Angelo and Leonardo da Vinci, but also Dante and Tasso and Ariosto, to say nothing of Cervantes and other transalpine stars of

that galaxy, that made "the revival of learning," using that phrase in its widest chronological import, so deservedly illustrious. These things are a part of that general development and culmination of intellect, which is not only an accompanying circumstance, but also a producing cause of the supercession of the old and outworn by the new and regenerated faith.

As the ebb infallibly follows the flood tide, so does an age of analysis succeed one of synthesis. Mediaeval orthodoxy was followed by modern Protestantism, with its adjuncts and accompaniments, the inductive philosophy and vernacular literature. The one church was split up into many sects, the one language reappeared in many dialects. It was the decline, and will lead eventually to the fall of the spiritual Roman empire. It is a most mistaken idea that this process of analysis is confined to religion. It extends to politics, philosophy, letters and life. The schoolmaster feels it at his desk. The father finds it in the family. It is *authority*, in the abstract, that is dethroned, and the pope and the king experience it in common with all other central powers. It promises to be the most stupendous ebb on record. As material Rome was the greatest political edifice ever reared, and its fall the greatest political subsidence of which history is cognisant, so spiritual Rome was the grandest ecclesiastical structure that the human mind ever devised, and its subsidence must be proportionate to its splendour. As in material Rome, the old empire of force culminated; as it was the grand summation of ancient civilisation, so in spiritual Rome, the old empire of superstition attained to its maximum of power and influence, and in it the hierarchical organisation of the ancient priesthoods arrived at culmination.

These are facts which concern us as anthropologists. The empires and the hierarchies which preceded Rome were oriental in character. They wanted that sustained force and commanding intellectual power which can only be obtained from the ethnic basis of a European population. Babylon never attained to the far-seeing policy or the legislative wisdom of political Rome, nor were her magi or even those of Egypt comparable either for polemical astuteness or for forecasting and absolutely mundane ambition, to the surpliced priests and tonsured monks, that obey the tiara'd pontiff on the Tiber. We have seen what the Classic race could do for political and spiritual empire. The world has yet to see what their successors still farther west will accomplish, with yet greater means and fully equal capacity.

We have said that the present age of analysis promises to be the most thorough and searching upon record. Never before was the critical examination of faith and tradition so daring and exhaustive. Never before was scholarly scepticism so well equipped with the means

for doing successful battle with popular belief. Never before did science occupy such lofty vantage-ground as compared with revelation. And never before were the "masses" so open to the direct action of all these disintegrative influences. The old theology is obviously doomed. It simply waits for the execution of its sentence. Nor is the political horizon less marked by the portents of instability. Here, too, as in theology, the movement dates far beyond the existing generation. The English wars of the Commonwealth indicate the extension of excitement from the theological to the political sphere, this transference commencing perhaps with the thirty years' war in Germany, and culminating in the French Revolution. But the movement is obviously not going to stop at the political, for it is now penetrating the social sphere, and making claims to which science cannot but demur. Democracy has long demanded political equality for all the citizens of one homogeneous community, but we now also hear of the political and social equality of diverse races, based on the assertion, or rather the gratuitous assumption of organic and intellectual equality among all the strikingly characterised varieties of mankind. Of these stupendous claims, the late civil war in America was a result. Having arrived at Negro suffrage and miscegenation, we must assuredly be at "the beginning of the end"—at least in *theory*. Fortunately for the world there is moral as well as physical friction, and abstract ideas are always brought up a long way short of their hypothetical range. Resistance ultimately becomes equal to impulse, and the impetuous strangers having expended their force, sink into respectable quiescence, like their neighbours and predecessors.

To thoroughly understand a man, we must know something of the age in which he lived. It is more than the framework to the picture. In a certain sense, it is the mould to the metal. Do as he may he cannot wholly escape its influences. The Roman authors of the imperial age differ not merely in style but in tone from those formed under the republic; and among ourselves, the men of the seventeenth, eighteenth, and nineteenth centuries are easily distinguishable. They were obviously reared in different schools, and in this connection it is therefore perhaps of some importance to observe that Auguste Comte was born in 1798, amidst the seething cauldron of the French revolution. Civil commotion and foreign war, constituted the pabulum of his childhood; from his royalist parents he must have learned their conservative version of the reign of terror. While the immediate thunderpeals of Marengo and Wagram, Jena and Austerlitz reverberated through the dawning consciousness of his early childhood, the retreat from Russia, the retirement to Elba, and the final defeat at

Waterloo, constituted the experiences of his youth. Such were his first impressions of public life, of the outer world of politics. He was reared in imperial France, amidst the smoke of battle-fields, and saw, while yet a boy, the fall of empire and the restoration of monarchy; nor were his surroundings as a student in anywise more congenial. He beheld an established religion in which the great majority disbelieved, enforcing a code of morals that few practised, and, as a necessary accompaniment of this, he found a government that was unstable, and a social fabric that was rotten. He was trained in a philosophy devoid of depth, and in a science whose facts were outgrowing its principles; and, lastly, he became familiar with a literature that was purposeless and a drama that was vicious. Poor M. Comte, with his earnest and systematic, and perhaps we may add, fundamentally devotional mind, it is no wonder that he felt ill at ease in such an atmosphere. To his pure soul Paris must have seemed a Circean sty, reeking with filth and abomination, beneath the thin disguise of a vicious, because effete civilisation. To such a thinker, so circumstanced, the conclusion was inevitable, that the world wanted regeneration and reorganisation. He saw, with the penetrating and intuitive glance of genius, that in all the higher departments of thought and action, the work of destruction had been effectually accomplished; that we were drawing towards the end of an era, the close of a dispensation, and that the only true duty remaining to be accomplished was that of a master builder, and so, with a confidence no less rare than admirable, he offered himself as the befitting restorer, the competent architect of a ruined but recoverable world.

Ere we can duly estimate either the success or the failure of M. Comte in this stupendous undertaking, we must understand what it is which the world really wants. It has been already shown that we are nearly at the termination of an age of analysis, and that consequently a period of synthesis must be closely awaiting us. Hence, then, we may clearly perceive, that M. Comte was not an accident, but on the contrary a normal, and in a sense, necessary product of the age. He and his system were wanted—they, or something better. What, then, is it which is wanted? What are the present legitimate demands of civilisation in reference, primarily, to religion—for it is principally under this aspect that we propose to consider the subject of Positivism on the present occasion; the aspect, we may observe, under which it was regarded as of most importance, both by its founder and by some of his most distinguished disciples.

The distinctive feature of the religious world from Britain to Japan is present effecteness, combined with the strong expectancy of almost

immediate regeneration. Everywhere the signs of utter exhaustion are apparent; more especially is this the case throughout the East. Brahmanism and Buddhism are gone, and the faith of Islam is going; and the hopelessness of these Oriental creeds arises from the fact that they are socially and intellectually, as well as religiously effete. But it is otherwise with Christendom. Here we are at the very focus of mundane activity and human progression. The Christian peoples are the hope of the world, and somewhere within their area, therefore, must we expect the process of mundane regeneration to commence. What then is our condition, and what are our wants as a result of it? The ethnic speciality of the faith of Christendom consists in the fact that it is largely imported, that it is not, except by extensive modification, a normal product of the Aryan, or, shall we say, Indo-European branch of the Caucasian stock. It is Semitic in its roots. It is a part of that invasion, by which the Classic and Celtic races were overwhelmed in the hour of their effeteness. Despite its many modifications it is still largely alien to the racial thought forms of European peoples. It is so from the preponderance of its Semitic over its Aryan elements. Let us explain our meaning more definitely.

The Semitic races are predominantly moral in their mental constitution, while the Indo-Europeans are as predominantly intellectual. Now, it is because existent Christianity does not make adequate provision for this latter attribute; that it is failing in the present age of racial reemergence. It has also another source of weakness, more especially in relation to Europe; it is too Oriental in its estimate of women. Under the Mosaic system woman found no recognised place in the temple; and Christianity is still so far Judaic in its essential character, that she cannot serve at the altar. We hear many polite euphuisms about what Christianity has done for women, but the historic fact remains, that under Classic, Celtic and Teutonic heathenism, she was a priestess and a physician, she is now a tract-distributor and a nurse. There is not, we believe, a church in Christendom, that permits her to distribute the sacred elements. Even the most daring sectaries shrink from so dire a profanation of things holy. This cannot continue. It is contrary to the genius of the European, and more especially of the Celtic and Teutonic mind, and must give place eventually to a nobler estimate of the place and prerogatives of womanhood in the spiritual scheme of things. The deficiency of Christianity, then, as a world religion,—if such a thing, except in a very modified sense, be virtually possible,—arises from its want of due adaptation to the higher intellectual proclivities of the European mind. It wants farther modification and expansion. It is

in the process of undergoing this. It became æsthetic under the church of Rome; it is becoming, or rather preparing to become, literary and scientific, under the church of the future.

Religion is immortal: its manifestations may be Protean, but its essence is indestructible. It is the grandest product of the human mind, and the mightiest power that society has ever developed. Notwithstanding the vast changes to which it has been subjected, both in doctrine and ritual, its existence has been continuous, and its growth probably uninterrupted. The great theological revolutions which loom out upon us through tradition, and which at a later period constitute some of the most important subject matter of history, were not casual incidents, but orderly phenomena, necessarily developed in a certain sequence, by the interaction of races and the general progress of humanity. And we are now, from both causes, approaching another period of crisis. The European peoples, or nationalities, as they are sometimes termed, are, anthropologically speaking, emerging from the ruder effects of their ethnic baptism, at the period of the Gothic conquest. The alien elements then introduced, having produced their due result of invigoration, are scaling off, and Greek and Italian, Celt and Iberian, are reappearing in their olden features, with simply the normal growth of an ethnic era super-added. But is there to be no other scaling off? Are not the alien ideas, like the alien races then introduced, a foreign product, to be absorbed and assimilated, or if not susceptible of this process, to be expelled? Does not an entire reemergence of the European peoples imply this? Is it within the limits of ethnic possibility, that a peculiarly vigorous type, both mentally and physically, like the European in all its varieties, should submit to an indefinite prolongation of moral domination on the part of another, if not inferior type, like that of the Semites? And yet this is exactly what would be implied by the permanence of our existing forms of thought in matters of faith and religious conviction.

Such a supposition as that alluded to at the close of the foregoing paragraph, however probable it may seem to the theologian, is, it need scarcely be said, utterly untenable on anthropological grounds. In truth, the doctrinal modification which Christianity has already undergone, and by which it is distinguished from both Judaism and the faith of Islam, demonstrates that a purely Semitic faith could not prevail over an Aryan area, even in its hour of ethnic collapse. Neither, on the other hand, will the laws of progression allow us to suppose that Europe, having once received and assimilated so much of the higher elements of Semitism as are involved in Christianity, will again finally surrender them for an inferior creed. She may,

and no doubt will, superadd her own intellectual elements to them, but will never again yield up those grander veracities, which by prolonged adoption have become, in a sense, her own.

What, then, is the essential character of that faith, to which, from a variety of causes, racial, political, theological and philosophical, Europe is steadily and irresistibly tending?—And we reply, a religion as grandly monotheistic as that of the noblest of the Semites, as purely moral and as sweetly beneficent as the finest phase of even theoretic Christianity, together with an intellectual element superadded of which both are more or less devoid. This is simply saying in effect, that from the biparentage of ancient faith and modern civilisation, we shall obtain an offspring superior to either; it is the world-old process that was effected in the conjunction of patriarchal faith with Egyptian wisdom, and in the subsequent union of Judaic theology with Hellenic philosophy; it does not imply the destruction of Christianity, but its renovation—not its death, but its resurrection. It is the foremost shoot of the mystic Ygdrasil, and although of necessity the last year's shoot, and now perchance of somewhat sapless and winterly aspect, must nevertheless prove the more immediate parent of the present year's growth. To suppose that it can be put aside and ignored as of no account, is simply absurd. To use another simile, it is "the old foundation," compared with which every other is of sand, nor will any true master builder reject or despise it, in his attempted edification of the future.

Granting, then, the truth of our conclusion, that Europe must ultimately produce a faith more suited to her spiritual necessities than existent Christianity, the question remains, on which of her races will this great mission finally devolve? and we reply, not on the Classic. Their force has been already expended in the modification of Christianity, whose doctrine and ritual, in so far as they depart from their Judaic originals, are, the former Greek and the latter Roman, or if the term be preferred, Italic. Not the Teutonic. They are not sufficiently constructive. They are doing their appointed work in the critical analysis of the existing faith. It is their business to remove the rubbish of error, not to lay the foundations of truth or rear the superstructure of beauty. It is almost needless to mention the Slavons; they have never created anything, being simply receptive of the thought forms of higher types. There remain, then, only the Teutonised Celts of the West, now apparently in the process of emergence into mundane supremacy; and to fully understand their position in relation either to the religion or the empire of the future, we must take another short historical survey.

In accordance with those comparatively recent annals which con-

stitute written history, we have been accustomed to regard Asia as not only the cradle of mankind, but also as the aboriginal seat of civilisation. Nor is this matter for astonishment. During the last four or five thousand years empire has been marching north-westwards. It came out of the east, and in its train has followed that religion, which now prevails over the whole western world. Hence all our more immediate experiences point to an oriental origin of things. But anthropology, archæology, and philology, as they carry us down to profounder depths, do not altogether confirm this conclusion. In the first place, we have ample present evidence that Europe is the highest Ethnic area in the world. Its racial types are the most vigorous both in body and mind, and indeed it is not too much to say that the West, and not the East, of the old world, seems to be the especial seat of, at least, the Aryan division of the Caucasian race; while recent philological and archæological investigations seem to indicate that an Allophylian, or Semimongolian, type, with an agglutinated language, preceded the Semites, even on the banks of the Euphrates and the Tigris. Thus, then, it would appear that the Turanian, and not the Caucasian, is the especially Asian type of humanity; or, at farthest, that the latter is confined to the western and Mediterranean border of the continent. Should this be confirmed, the claims of Asia as the aboriginal fountain of any higher religion or philosophy must be regarded as more than questionable.

True archæology, as contradistinguished from dilettante antiquarianism, is yet too much in its infancy for confidently basing our conclusions as to the condition of prehistoric man on its revelations. But it is an important fact in connection with these speculations, that on the primitive Celtic area of the north-west we find the dawn of architecture in the monoliths, cromlechs, and so-called druidical remains of Britain and France; while in the Cyclopean ruins of Italy and Greece we seem to trace the successive stages of progress in art, from the unhewn block, innocent of tool, up to the still vast but perfect parallelogram, affording ample evidence not merely of the mechanical, but also the masonic, skill of the mighty builders who prevailed to place these gigantic masses in position. It would, perhaps, be rather premature to assert positively that the pyramids of Egypt are recent as compared with the walls of Tiryas and Mycenæ; but it is not too much to say that the general current of archæological evidence is flowing in that direction.

Again, true philology, as contradistinguished from mere verbal pedantry, is too recent and imperfect to prove more than merely suggestive in inquiries like the present. But the great inflectional languages of the early Aryans are clearly indicative of a prehistoric

antiquity of yet unknown duration, when these mighty forms of ancient speech were being slowly built up into the grandeur and compression which we find in the Sanscrit and its allied tongues. We know how long it has taken to thoroughly break down these glorious modes of utterance into the baby-talk of India and modern Europe, and is it to be supposed that it took a shorter time to build them up? And as to the primitive area of these Aryan peoples, the true Ethnic seat of the race, by what satisfactory evidence have we transferred this from thoroughly Aryanised Europe into the heart of Turanian and Semitic Asia? Is not this simply a worthless corollary from the foregone conclusion of an Asian origin for all things, itself the baseless tradition of the Semitic tribes of Palestine?

It is not, then, too much to assert that the tendency of modern inquiry is to indicate the probability of a great prehistoric cycle of civilisation and progress, which, commencing in the north-west, moved south-east till it reached the Ganges. The movement which constitutes history proper, being the exact reverse of this, that is, the return wave from the south-east to the north-west; now it is very obvious, concentrating with especial force upon Britain, the geographical terminus, where it must culminate, preparatory to the resumption of its south-eastern march, during the ages of a yet unrevealed, though we have reason to believe stupendous future of classic and oriental restoration. These we grant are rather wild speculations, as whatever takes in so large a sweep of time and space must necessarily be, in the present imperfect state of our information. But we have thrown out these hints to indicate the possible dignity of the Celtic area from a historical standpoint, as being, in a sense, the source and terminus of these great oscillations that carry empire and civilisation in their train.

As an additional indication of the Ethnic grade of the Celtic area, more especially in relation to religion, let us compare the geographical divisions of Asia with those of Europe. That there is a certain racial and moral relationship between the two continents, in virtue of which the areas of the one correspond, in a measure, to those of the other, however inexplicable the fact may be in the present imperfect state of our information, will scarcely admit of a doubt. Thus, Mongolia corresponds to Slavonia, Tartary to Germany, India to Italy, Arabia to Spain, and Persia to France. But if so, then where is the correlated European area of Syria, and perhaps Asia Minor? and we answer unhesitatingly, the British Isles. Judging, then, by the indications afforded through this line of representative affinities, M. Comte might have been the Zoroaster, but scarcely the Mohammed or the Jesus of the world's theological future. It would

not, however, be wise to lay too much stress on conclusions derived from data as yet so imperfectly understood, and we will, therefore, conclude this portion of the subject by simply remarking that there is an obvious Ethnic relationship between the Semites of western Asia and the Celts of western Europe, and that if the latter continent is ever destined to complete the historic epicycle of the former, by the development of a mundane religion, M. Comte seems to have come of the race of the prophets!

But prophets hitherto have always been of a rather peculiar type of character. All history testifies to the fact, that successful architects in the spiritual sphere ever laid claim to preternatural power and supernatural illumination. They taught not through reason, but with authority, and fortified the demand of unquestioning obedience to their dictates by speaking as the delegates of Deity. They were healers and wonderworkers, and utterers of dark and vaticinatory sayings. Perhaps M. Comte and his disciples may say that the age for such things is past, to which we reply, then so also is the age for the founding of a religion, as that term has been heretofore understood and exemplified. The truth seems to be that this worthy man confounded the philosopher and the prophet, and because he had some rightful claims to the former character, thought he might therefore successfully enact the part of the latter. Poor fellow; a prophet without a God, without spiritual insight, devoid of miraculous power, and without the gift of prediction, and having himself no faith in immortality—verily it is doubtful if this nineteenth century has presented a spectacle so truly pitiable.

But Auguste Comte, there is reason to believe, not only misconceived the attributes proper to a prophet, and so grievously misapprehended his own vocation in the world, but that he also equally misapprehended the attributes in humanity to which religious tuition should be primarily addressed. He appealed to the intellectual faculties, and thought that his religion would be received, because it was rational. But religions have always been accepted, because they were thought to be divine. Auguste Comte was not only a philosopher, but his system was a philosophy of life—simply that, and nothing more. It was thoroughly human, both in its origin and its aims; but all successful and permanent religions have claimed to be superhuman. They have always announced their grander truths as direct revelations from the supersensuous sphere, and these truths were promulgated as having an important and practical bearing, not only on time, but also on eternity. It is, of course, unavoidable, that in systems so characterised, the founder should teach with authority, and not as a philosopher, and if M. Comte and his friends were un-

prepared for this, they had better not have given us a "religion," but something with a title far less pretentious.

But it is time that we should examine Positivism in some of its details, as a system professing to be the future religion of humanity. And here let us do justice to the grandeur and truthfulness of M. Comte's fundamental idea, that what the world now really wants is reconstruction. We are approaching the termination of a critical and disintegrative era, so truly mundane in its area, that every religion in the world is effete. It need scarcely be said, that, as an accompaniment of this, every system of philosophy is unsettled, and the entire constitution of society, in all its aspects, is unsafe. The old beliefs have vanished, the ancient loyalties have departed, throughout not only western Europe, but the greater part of Asia. The dilapidation is universal, and the only certitudes left us are those of science, with whose reorganisation, therefore, M. Comte was wise in beginning. He was also quite right in regarding Europe, where there is still intellectual life beneath the ribs of a moral death, as the area of re-emergence. But was he equally right in regarding the Protestant countries as largely excluded from this area? Is it not precisely at the point of greatest disintegration, that we should expect reconstruction to commence. Catholicism is too well organised to permit of reorganisation. It is in Protestant countries that religious disintegration has been carried farthest; and it is there, consequently, that we should expect the commencement of organisation. To be definite, we regard Britain and not France as the point of crystallisation.

Let us enter somewhat more minutely into this matter. France is yet politically and religiously at the purely negative stage; she has destroyed monarchy to leave anarchy—restrained by the sword of a military despotism; so in religion, where she is not papal, she is sceptical. Ethnically, this is due to the fact that she presents a Celtic area, very inadequately baptised by Teutonic blood, so that a very large moiety of her population are physically effete rather than regenerated Gauls. Geographically, it is due to the fact that she is not the true terminus of the great north-western march of empire and civilisation. But it is otherwise with Britain. Here the reorganising tendency is clearly manifest. The English have long practically understood that "to destroy you must replace." As they limited the monarchical, they developed the representative element in government; and, as they destroyed the papal, they developed a Protestant hierarchy; and the Ethnic source of this ability to evolve and work appropriate institutions is, that they are Celts, thoroughly baptised by Teutonic blood, and so fitted without further aid for

another cycle of progress and power ; while the geographical cause is, that they are at the terminus of the north-western march of empire, and so at its inevitable point of culmination, where reorganisation commences.

We have already said that M. Comte committed a fatal error in promulgating a religion without a God. Such a solecism involved two grave mistakes. It was in the first place, a retrogression in thought. Monotheism is the grandest religious idea to which the human mind has yet attained. It is the bourne to which humanity has tended through countless ages, and having once attained, the laws of progress assure us that it will never surrender it for an inferior conception. You may displace one God by another. Jehovah may succeed Moloch. And the angry and jealous Deity of the Pentateuch may be superseded by the loving and longsuffering Father of the Gospels. But a revealed Deism will never finally succumb to a philosophic Pantheism. If you would destroy the God of your superstitious countrymen, replace him by a better ; he will never yield to a mere negation. In the next place, M. Comte, by this procedure, severed himself from the past. Positivism is not a living growth out of Christianity, but a madeup system of philosophy standing in direct antagonism to it. It is not a branch of the mystic Ygdrasil, with the lifesap of the ages circulating through it, but a pretty little hothouse plant, from the great Paris conservatory of thought, that would perish in a day if exposed unprotected to the rude blasts of a northern winter.

Another grave mistake of M. Comte, only secondary to his fatal omission of Deity, was his practical denial of immortality. Now as monotheism is the grandest idea yet attained in relation to God, so his afterexistence is the noblest conception yet developed in reference to man, and although schemes of philosophy may be propounded without it, no system of religion can venture to ignore it. You may displace an inferior by a superior conception of immortality, but with the idea itself you can never dispense. The source of M. Comte's error in these omissions was his confounding religion with philosophy. He did not seem to know that God and immortality are intuitions of the spirit not conclusions of the intellect, that they are sublime veracities, primarily revealed by seers, not simple truths, carefully elaborated by metaphysicians. Perhaps this matter requires a little farther illustration.

In any enumeration of the world's masterspirits, it is impossible to omit the prophet. How in any true history of humanity can you ignore such beings as Moses, Christ, or Mohammed ? Why as actual forces, all the philosophers that ever lived weigh but as a feather in the balance against them. Now after allowing for all the exaggera-

tions of tradition, it is very obvious that these mighty seers, these great architects of faith, constitute a special order of intelligences, having certain generic features in common, and in virtue of which they differ, not only from the mass, but also from other men of genius. And primarily in the order of their distinctive attributes, we may enumerate their constitutional susceptibility to supersensuous illumination, or as the mesmerists would say, to spontaneous clairvoyance, implying, it need scarcely be said, much else. But of all this M. Comte knew nothing, and so was enabled to confidently propound himself as a world's prophet, on the stock-in-trade of a Parisian savant.

But omitting this consideration, as being perhaps rather too esoteric for uninitiated readers, let us contemplate this Godless faith of the scientific Frenchman, from the ethnic standpoint. Upon any enlarged and really philosophic view of the great religions of the world, their adaptation to racial specialities becomes at once manifest. Judaism and the faith of Islam are obviously Semitic creeds. They are unitary and masculine, and reveal God, not as the indwelling force of nature, but as her creator, as a selfsubsistent spiritual entity, dwelling above and beyond her. In reality, as the infinite and eternal contradistinguished from the finite and temporal. This is revealed Deism. Now Brahminism and Buddhism are as obviously Aryan creeds, that is, they are essentially pantheistic, and see God, not *above*, but *in* nature. Hence their cardinal doctrine of incarnation, the divine human being the highest possible form of the spiritual and eternal manifesting itself in the material and temporal. Now in Christianity we have a combination of the two, that is, we have a Semitic God as creator and an Aryan incarnation as intercessor, the tendency being, in accordance with our racial proclivities, to prefer the latter to the former. Indeed the thorough Aryan will assert stoutly, that it is quite impossible to approach God except through Christ, although if he would only look abroad he might see Jew and Moslem doing the thing every day. Under Catholicism, the adoration of the Virgin and the invocation of Saints, show us the lingering Semitism of Christianity, largely overlaid by the pantheistic proclivities of the classic race. Now the system of M. Comte is in reality this adoration of the Virgin—that is of the woman, and this invocation of Saints—that is of select humanity, with every trace of intruding Semitism thoroughly eliminated. It is the pure pantheism of the Latin nations, at its germinal stage, before a formal and avowed polytheism has had adequate time for development.

Now it must not be supposed that the foregoing amounts to a sentence of entire condemnation. Pantheism has its legitimate domain

in the religious sphere. The fact that it is the religion of the Aryan or intellectual division of the Caucasian race, as contradistinguished from Monotheism, the creed of the Semites or moral division, may suffice to show that it is not without its rightful claims on our attention. In truth, what humanity now needs, as we have already hinted, is not the entire supercession of one of these creeds by the other, but their union in a prolific marriage for the production of a third, combining the good qualities of both, and thus superior to either. In a sense Christianity was the beginning of this process, and what the world is about to see, is its continuation. Judaism and Hellenism were the representative types respectively of Semitic and Aryan thought, and as they coalesced under the political supremacy of Alexander and his successors, and interfused amidst the cosmopolitanism of all-absorbing Rome, Christianity was the result. Such elements of progress as the world then afforded were thus absorbed and assimilated, and what we now want is a similar absorption and assimilation of its present elements. These are still the loftiest and purest Monotheism of the morally developed Semites, and the philosophy, literature, science and art, not omitting even the direct religious Pantheism of the intellectually expanded Aryans. We now then begin to understand something of M. Comte's real mission and of that inspiration of the age which urged him to its fulfilment. He was not the world's "coming man". He had neither the moral elevation or the true intellectual expansiveness requisite for this, to say nothing of the more than heroic energy and poetic inspiration that go to make up our conception of the world's future prophet. He could not take in both sides of the problem. He was too thoroughly a Pantheistic Aryan to properly appreciate the grandeur and importance of the Semitic elements, in promoting the religious development of humanity. But from this very speciality in his mental constitution, he was, perhaps, all the more qualified for assisting in the arrangement and classification of the sciences, and in otherwise organising the Aryan elements of progress prior to their assimilation as integral parts of the religion of the future.

Let us enter somewhat more minutely into this subject. Monotheism is the sublimest conception which has yet been formed by the mind of man. It is, indeed, so grand and so lofty, so positive and so masculine, that under its best form, as among the Jews, it is utterly destructive of art, and cannot rear even its own temple. While under its ruder and severer aspect, as proclaimed by the desertborn son of the Koreish, it ends, as we see in all Mohammedan countries, in political decay and physical desolation. Nor is this matter for astonishment, for it is only a half truth. It asserts the divinity of God, while

by implication it denies the divinity of nature, and therefore of man, the child of nature. Hence the necessity for the Aryan element of Pantheism, which so loudly proclaims this divinity, and even asserts its distinct incarnational manifestation. For a full religious development, there must not only be a worship of God, but also in a sense, a worship of nature, and at least a glorification of humanity. Now it is this glorification, this veritable apotheosis of humanity which constitutes the fundamental truth of Christianity, and gives it its acknowledged power over the Aryans of the West. Just as the same doctrine, gives the great incarnational faiths of the East their hold upon the Aryans of Asia, and through them, upon their ruder neighbours, and in a sense congeners, the Turanian populations of the farther Orient. For a full proclamation of the divinity of nature, albeit it is the major and inclusive premiss, and in due logical sequence should have preceded a recognition of the divinity of man, we have yet to wait. But for this the labours of modern science are, as our religious friends might say, a providential preparation.

We have been severe on M. Comte, or rather on his doctrines. But this was unavoidable. His mistakes were so grave and his pretensions so preposterous, that to expose them was to condemn him. Let there be no misapprehension in this matter, however. For Auguste Comte, as a private individual, we entertain the most profound respect. As the organiser of science the world will ever be his debtor. But as the would-be founder of religion, we regard him with a pity bordering on contempt. It must not be supposed, however, that he proclaimed nothing but errors, or that his labours were altogether useless, or as some would assert, decidedly mischievous. He appeared as the herald of reorganisation in an age of chaos. Although not the true Demiurgus, he was doubtless his precursor, and as a sign the importance of his advent cannot well be overestimated. He came too at the right time and of the right people for the work which he had to perform, the classification of the sciences preparatory to their recognition and absorption as a part of the impending religion to humanity. With this, some may, perhaps, think that he should have been content. But it should be remembered that France has a social as well as an intellectual mission, and perhaps her inspired son spoke under compulsion in the one case as well as the other. Of M. Comte as a religious founder we have already expressed our opinion. Let us now look at him as a social reformer; and here we must again refer to his religious system, but this time, not as an embodiment of doctrine, but as a scheme of ecclesiastical polity.

Religion implies a priesthood. If you permit the former, you cannot refuse the latter, for it is but the visible organ through which the

invisible life discharges its functions. It is but the material vesture in which the immaterial spirit has prevailed to clothe itself. A hierarchy is the ecclesiastical necessity of a spiritual age, and so we may say, in other language, the inevitability of a reconstructive era. Such an assertion is of course very unpalatable to destructives, but it is none the less a veracity, resting on the ever accumulating experience of the ages. So far from humanity outgrowing this, it is on the contrary growing into it. A true hierarchy is utterly unknown to the Negro, and but imperfectly so to the Turanian, for the Buddhism of the latter, whether in doctrine, organisation, or ritual, is an importation from Aryan India. Nigritia has its Obiman and Mongolia its Shaman, till assisted from without.

This very fact, that a hierarchy is the special product of Caucasian culture, must ever give this complex form of ecclesiastical organisation an interest of no common order to the true anthropologist. In it must be reflected some of the noblest instincts, shall we say, some of the grandest inspirations of the highest type of humanity. In its perfect form, a hierarchy is the organ of a theocracy. It was this once; it will be this again when the epicycle has fully revolved. To this the Papacy was an approximation. It was this in theory, but not in fact; it was a promise of which we yet await the fulfilment. Now a theocracy almost implies not merely a divine founder, but also under some form a continuity of the divine presence. The Grand Lama is presumably a reincarnation, and even the Pope professes to be Christ's vicar; and in his official capacity as head of the Church is supposed to possess so much of living inspiration as to justify his claim to doctrinal infallibility. It need scarcely be said that Protestants do not understand this, but if wise they would know that every simulacrum implies somewhere or somewhen a real presence. Perhaps they will recollect, as they are familiar with Biblical instances, that under the Semitic theocracy of the Israelites, among whom, from racial proclivities already specified, an avowed incarnation would have been distasteful, there was the (to Moses) visible descent on Sinai, and (to the high priest) the permanently visible shekinah between the cherubim. After such considerations as the foregoing, poor M. Comte's miserable savants, with the influence of women but without the power of men, are so irresistibly suggestive of the ridiculous, that perhaps, in mercy to his memory and to the feelings of his living disciples, the less we say about them the better! Suffice it that hierarchies in their splendour have always used princes as their puppets, and should they be destined to another culmination, will doubtless do so once again, the solemn remonstrances of revolutionists and the stringent regulations of M. Comte to the contrary notwithstanding!

And here let us pause for a moment to contemplate the childish confidence and well-meaning self-sufficiency of this great and good but sadly mistaken man. A Celtic-Gaul, without the shadow of a suspicion that his Aryan specialities as a Pantheist, utterly disqualified him as a doctrinal teacher, for leadership among the Monotheistic Semites, he nevertheless proceeds to promulgate a world religion in which there is no God ! Practically ignorant also of the great law of progress, that mankind never give up any one form of truth to which they have attained, till it has been superseded by another and a higher, he thought the Christians of Europe would surrender their belief in immortality for a participation in the cheerless celebrity of his *grand être*. Then, proceeding to found a hierarchy of intellect, he thinks to limit their power through all ages by a few arbitrary rules laid down in his study at Paris. What a stupendous ignorance is revealed in these few but cardinal errors. Ignorance of race, ignorance of history, ignorance of the fundamental laws of human progress. It is very obvious that M. Comte really knew nothing of racial speciality in reference either to religion or government. And it is equally obvious that he was oblivious of the great truth, that empires and hierarchies have their own laws of growth and decay, and are in each, not only independent of arbitrary rules, but also to a considerable extent even of disturbing forces.

Returning, however, from this almost personal digression, let us, ere concluding this portion of the subject, make a few more remarks on priesthood and its functions. A hierarchy is, strictly speaking, an organisation of the cultured intellect of any given time and area. It is a most mistaken idea that it numbers only the celebrant clergy. It did more than this, even in the rudest ages. It embraces also the lawyers, whose judges answer to the bishops, the physicians and men of science, the artists and men of letters, whose poets are an order of subprophets. In other words a hierarchy is tantamount not merely to the clergy, but also to the clerisy of the land, and this too in a state of efficient organisation. Now the speciality of these latter ages, using that term in a rather wide sense, is the disorganisation of this body, accompanied, of course, by a great diminution of its recognised dignity and formal power. And perhaps it is in perfect keeping with this, that the most spiritual of all its orders, the men of letters, in truth as we have said, its very prophets should be the most thoroughly disorganised, veritable Ishmaelites of the desert of civilisation, unvestured, untempled, and, it need scarcely be said, *unendowed* ! The truth, however, is that the universities, with their gownsmen and professors, represent this branch of the great hierarchy of intelligence—albeit, perhaps, the traditional rather than the vital phase of the matter.

Now we can readily understand that this condition of things is quite satisfactory to John Stuart Mill and those who think with him. It is revolution realised. Hence his opposition to that portion of M. Comte's scheme which implies the reorganisation of the spiritual power. But in this, as in many other things, the founder of Positivism, however shortsighted in some respects, at least saw farther than the revolutionists, that is, he looked beyond them, over this age of chaos, into one of reconstruction, which, quite independently of any immediately presentable signs of its approaching advent, is obviously impending, if only from the law of action and reaction. But when it comes, and the ripples of the returning flood are distinctly visible, we may be sure that it will be with all the resistless force of a mundane tide, in regard to which human regulations and artificial obstacles are simply contemptible.

But if hierarchies, whether in their origin, growth, splendour, or decay, are subject to the operation of regular laws, so also are rubrics. The ceremonial of a religion is no more an accident than its doctrine. As the last is an inevitable development, from previously existing elements of thought, so the first is an unavoidable necessity, a practical result of previous example. The Church of Rome did not originate her vesture or her ordinances, nor, we may add, even the manner of their celebration. They are largely an inheritance, which, however, she has very wisely not allowed to lie barren. And however plain-sailing, simple-minded Protestants may object to it, there is no doubt they will prove very largely the germ, or shall we say foundation, of the rich and imposing ceremonial of the future. But Auguste Comte quite mistook his vocation in attempting to legislate on such matters, which, as we have said, are things not of arbitrary appointment but of irresistible growth, and that growth we may add in strict accordance with racial proclivities.

It is the same with architecture. Rome could no more help building her Gothic cathedrals, than she could avoid the celebration of mass. The Olympian faith is reflected in the Parthenon; while that of mediæval Christendom may be read in York Minster. The race and the faith determine the temple. Given a new faith, and you obtain its inevitable sequence, the requisite inspiration for a new style. It is the essentially transitional character of Protestantism, which renders its architecture so poor and imitative. It is not, strictly speaking, a faith, but simply the protest against an old and the preparation for a new one. Let no prophet, therefore, trouble himself about his temple, well knowing that all spirits become fittingly vested in due time. Alas! from how much needless trouble might would-be reformers often save themselves, by a little more reliance

on the divine yet simple law of GROWTH. These good people do not seem to understand that, if you would have an oak, you must plant an acorn—and wait the result. They, on the contrary, want to *make* their oak, and of course suffer ignominious defeat, at the hands of insulted and indignant nature, for their pains.

Now, we can easily understand that the disciples of M. Comte, while readily admitting the truth of these remarks in relation to such men as St. Simon and Robert Owen, will nevertheless vehemently deny their applicability to the founder of Positivism. And we grant that plenty of passages may be selected from his writings, most favourable to the slower processes of growth and development, and directly condemnatory of needless and useless interference. This, indeed, was his theory; which, however, his practice very commonly contradicted. Indeed, it would almost seem that he thought no one had a right to interfere with the historical continuity of human progress—except Auguste Comte! We quite grant that he was true to his theory in the systematisation of the sciences, which was a movement, as Father Newman would say, in the right line of development. But his Positive religion is a more decided breach of the theological continuity, than anything of which history affords the practical example. In truth, one important element of its impracticability, is the fact that it does not grow out of, or directly rest upon, any antecedent system. This, however, is by no means the only instance in which M. Comte's theory and practice contradict each other. Thus, he is frequently speaking of *unity*, and yet his scheme for the temporal government of the world consists in the institution of an indefinite number of small republics, ruled by their principal capitalists. He apparently not seeing, that the only real *unity* possible, is under a theocratic autocracy, whereto his model republics are the opposite pole of multiplicity; poor, weak, *experimental* humanity, having generally had to content itself with something less extreme than either!

M. Comte's ignorance of race was fatal to his pretensions whether as a religious founder or as a social reformer, with a mundane mission. His area, not only of experience but also of outlook, was essentially European, where it was not still narrower, as being especially French. His geographical, and with this, his ethnic range, was far too contracted for a true humanitarian chieftain. And he laboured under a corresponding defect in reference to time. He was too much the child of the revolution. He mistook many of its essentially transitional and merely provisional arrangements, for the normal manifestation of governmental principles. His division of what may be called secular society, simply into capitalists and workmen, is an instance in point. France having destroyed her here-

ditary nobility, he thought such an institution unnecessary. It is obvious that he did not understand, and therefore did not believe in caste ; or, speaking anthropologically, of race within race. It was an idea, on which the revolution necessarily made war, and he accepted its levelling conclusions without investigation. The oracular voice of history was dumb to him on this subject—or perhaps he was deafened by the sound of the tumbrils, that conveyed the effete remains of Frankish chivalry to the guillotine. Here, again, his ignorance of race was made manifest. As the highest types have the greatest hierarchies, so have they, in their normal condition, the grandest nobilities. Feudalism is an impossibility in Nigritia. Let us clearly understand this matter. The hereditary transmission of type and quality of mind is a fact in Nature, and as speciality of endowment and individuality of character become more marked as you ascend in the scale of being, there is of course more diversity of type and quality in the higher races than the lower ; in other words, there is more material out of which to evolve the institution of caste, an inevitability of the future, as sure as it was an actuality of the past. Here, too, as in many other phases of reconstruction, it is very obvious that the movement has already commenced, and society is even now dividing into *horizontal* layers ; in truth, settling into parallel strata—as some people find to their unspeakable mortification. Now to this we already hear the revolutionists uniting in one consentient chorus of denial—which, however, does not alter the fact in nature. Even into this matter M. Comte saw further than they do, and clearly perceived that there must be an owning and a producing class ; but then, as he constituted his hierarchy out of savants, so he made his nobility out of capitalists, and as we have already remarked, the less said about either the better.

But there is another phase of this matter, for which also M. Comte's system makes no adequate provision—we allude to the conquest, and in a sense, colonisation, of the inferior by the superior races. Now, ethnically speaking, this is obviously to be the great feature of our more immediately impending future. Perhaps this needs some explanation. The racial event of the last two thousand years was the subsidence of the nervous and the military predominance of the muscular races. We see this from India to Britain ; the Tartar conquering Asia, and the Teuton subduing Europe. It was this movement which brought out not only Alaric and Attila, but also Toghrul Beg and Alp Arslan, Genghis Khan and Tamerlane. The only great exception to it was in the rise of the Saracenic power of the Caliphs, ultimately overwhelmed in the resistless flood of Turcoman invasion. But this movement has now ceased. The

needful baptism of bone and muscle has been effected, and once more the nervous and intellectual races are assuming their rightful predominance. And it is observable that coincident with this, we see the seat of political supremacy transferred to the Celtic area of Gaul and Britain, in all probability the primæval site of Caucasian culture, and now about to enter upon the epicycle of its former greatness. As an additional evidence of the almost mundane extent of these racial tides, it is also noticeable, that while the Osmanlies were subduing the Greek, the Mantchou tribes were conquering their more civilised congeners, the Chinese. And now, when the Classic races of the south-west of Europe are recovering their former independence, the Celestials are preparing to throw off the yoke of the northern nomads. Action and reaction are, and probably have been from time immemorial, propagated from Britain to Japan, right across the major axis of the Old Continent, and as we now see, even into the New, the colonisation of America being simply a prolongation of that western movement of civilisation which constitutes the cardinal fact of history.

To pass however from these, perhaps, rather vague generalisations, into more practical details; it is very obvious that Caucasian Christendom is now virtually the imperial centre of the world, and nothing but the petty jealousies of its rival nations, prevents their carrying this out into universal political supremacy, by means of military conquest, as the English have done in India and the Russians in Siberia. Asia must be, for a season, the appanage of Europe. Once more the Aryans will sweep out of their north-western home upon south-eastern conquests, but this time they will not be arrested by the Ganges but the Pacific Ocean. And is it conceivable that this should take place without the reappearance of caste? not at first, perhaps, as a formal institution, but ultimately as an inevitable growth. We may be quite sure that the Caucasian and Turanian will never settle down together on equal terms, when the former is the master. Let us remember that *written* history can be no guide in this matter. It narrates little more than the gradual subjection of the superior by the inferior types. In a racial sense it is simply the chronicle of disintegration and revolution. To understand and truly forecast the era on which we are about to enter, we must go back to tradition and archæology, to the period when India and Egypt were laying the foundation of their complex institutions. Short of this, historical instances will simply land us in error.

This matter goes down to greater depths than is usually supposed. As we have already shown in some former papers, the entire north-western march of civilisation was accompanied by a process of analysis and disintegration in language, institutions, and of course in ideas.

Now the opposite, or south-eastern march, will, we have every reason to believe, prove the very reverse of this; that is, it will be a movement of edification, religious, political, social, and intellectual, being in all this but the epicycle of that prior movement whereof mythology, philology, and archæology are now our sole records. Granting this, it must be at once obvious that any system of religion or philosophy which does not take such an impending movement of humanity into account, must fall short of modern pretensions, and will fail in that grand era which awaits us in the future. Shall we be thought severe if we pronounce the Positive religion thus inadequate. Alas! how much else in which mankind now place undoubting faith will also prove equally inadequate in that great day of account, so that Auguste Comte and his Parisian creed will not stand alone in the list of the rejected.

We have not yet exhausted the errors of M. Comte; nor is there any reason why we should attempt the accomplishment of so great a feat. Our purpose was simply to contemplate Positivism as a religion from the racial standpoint. We think that, thus tested, it has proved insufficient. Our judges in this matter are not the general public and men of letters, nor even the smaller, and apparently yet more competent tribunal of men of science, but anthropologists alone, for they only are competent to decide such a question, and to them we commit its further consideration. But to thus conclude our review of the labours of so great a mastermind with merely a verdict of condemnation would, we feel, be not only ungrateful, but positively unjust. As we have said, M. Comte had many deficiencies utterly fatal to his astounding pretensions as "the coming man." He had neither the depth, or the grasp of thought, nor the more than poetic sublimity of conception, to qualify him for so stupendous an undertaking as the founding of a world's faith. He had not even the requisite attainments, for a knowledge of race is among the necessary qualifications of him who would legislate for any other people than his own. But with all these wants he was, in many points, beyond his age, and uttered truths for which the future will acknowledge itself his debtor. He saw beyond the revolution, and, as a consequence, proclaimed the necessity for reconstruction. To a certain extent he even effected this in his own, that is, the scientific sphere. And, indeed, it may be said, that wherever he was really guided by the true spirit of re-edification he was right, while wherever he was the child of the revolution he was wrong. He did a noble work in the systematisation of the sciences; and even granting that the attempt was premature, it was still the life-labour of a giant, in his task as a pioneer. He was correct, too, in his assertion that we want a reconstitution of

the spiritual power. But he was as decidedly in error when he would have erected this stately edifice on the sandy foundations of a Godless creed, that dared not proclaim the immortality of man. In this he was simply the child of the revolution—the mathematician turned prophet! It is the same with his temporal power: society does want reconstruction, but not on the simply republican basis of capital and labour, even though the former should, as a rule, become an hereditary possession for the public good.

The truth is, M. Comte was an Aryan—simply that, and nothing more. Hence his religion is a philosophy, not a faith; and so will remain a beautiful dream, incapable of realisation. He saw and bravely proclaimed the superiority of man's moral over his intellectual nature, but he did not know how to enthrone it, in its rightful supremacy. In short, wherever the Semitic elements of universal progress come into play, he utterly failed either to appreciate or apply them. But he was often great as an Aryan. His eloquent advocacy of the claims of women is an instance in point. A pure Semitism, as in the case of Judaism and the faith of Islam, has always proved deficient in this province. It is the Aryan element in Christianity that has permitted of the worship of the Virgin, although it has not yet been able to restore her sisters to the service of the altar.

In some features of his system M. Comte's racial specialities become even yet narrower, and he ceases to be simply the representative intellectual Aryan proper, having sunk into the Celtic Gaul of monarcho-imperial sympathies, and, of course, with ultra revolutionary antipathies. He has not the faintest conception of true individuality—in others. To him there is but one individual in existence—and that is Auguste Comte, with, of course, his angelic counterpart, the divine Clotilde! He is to be the model man, and she the model woman, to the end of time. Poor fellow, with all his towering ambition, he was only a Frenchman, one of those thirty millions of human machines whom a Bourbon or a Buonaparte, when of competent force, can lead whithersoever he will—the clan blindly following their chief to glory or the grave. Of course, as a logical sequence to this radical defect in his mental constitution, he had no true idea of liberty—not even that of the intellect. He had no faith in the spontaneity of human endeavour. He did not understand it. He wanted everything to be subordinated to system—his system. It is doubtful if he even remotely comprehended genius, or its functions. He at all events made no provision for the free exercise of its powers. It would have proved a terribly disturbing element in his model world of artificial French propriety. There is no necessity for dwelling on his limited positivist library. Such follies refute themselves. No truly

wise man has any fear but that, in the matter of literature, the ages will winnow the chaff from the wheat. So with his limitations and directions as to philosophic speculation or scientific research, his attempted interference was simply the official impertinence of an old French prefect, grown grey in the work of needless superintendence. But we have done. For M. Comte, as an individual, we entertain the greatest respect. Of his system of religion, we will only say that it was the dream of a closet philosopher, who had but a limited personal experience, even of his own people, and no profound or extensive knowledge of the capacities and requirements of alien and diversely constituted races. His systematisation of the sciences will doubtless ever remain as an enduring monument of intellectual power; but the sooner his foolish creed is forgotten the better, not only for his own reputation, but we may add, that of his disciples.

Let not the general tenor of these remarks be misunderstood. There is no doubt that the Semites are pre-eminently the moral division of the Caucasian race, while conversely, the Aryans are the intellectual. But it does not at all follow on this account that the latter are never to take a leading part in the religious development of mankind. This altogether depends upon the work to be done. The Semites, as Jews and Moslems, have for the time accomplished their portion of the common labour in the propagation and maintenance of monotheism. And what the world now wants is the union with this of the intellectual culture of the Aryans. Existent Christianity is a result of the beginning of the process. In its doctrine, we see the influence of Greek neo-Platonic philosophy; in its ritual, the impress of Roman ceremonial art. But the process of interfusion is by no means complete. Literature and science are still unrepresented in our theology. The religious life of humanity is obviously on the verge of another great period of growth. And the true impulse to this can only come from nations still vital, that is, from the people of Western Europe, the true representatives of Aryan intellect in its more modern phase of development. Asia and its people are dead—awaiting their resurrection, of which, however, Europe must sound the trump. Thus, then, we are not opposed to M. Comte's claims, simply because he was an Aryan, and nothing else, but because, with an unwisdom which was astounding in such a thinker, he wished to ignore our religious progress in the past, and to build the temple of the future, without acknowledging our indebtedness to Semitic tuition during the existing Christian era. We are opposed to him because he wished to substitute a philosophy for a religion, and thus, instead of marching onwards into coming time with ever-accumulating wealth, he would have dropped some of our choicest jewels on the road. But we need have

no fear. What he attempted another will accomplish. Where he failed a greater will triumph. And perhaps in that far future, when the records of these transactions are scanned with the impartial eye of a distant posterity, it will be seen that the life-labour of this earnest and devoted, though mistaken Frenchman, was not altogether in vain, even as a preparation for that other and greater who is to follow in his path, and to succeed where he failed, and to triumph where he was defeated.

At some other time we purpose following out these inquiries on "Race in Religion" by a paper on the existent faiths of the world, and their relationship to the races that hold them. We shall then endeavour to show that Brahmanism and Buddhism are purely Aryan creeds; Judaism and Islamism, Semitic creeds; while Christianity is a result of the fusion of Semitic and Aryan elements in an early, not certainly the final stage of their combination. By an experience thus obtained from the study of history, and the observation of existing facts, we may perhaps be enabled to throw some little light on the probabilities of the future, not however, we trust, in the spirit of dogmatism, but of pure speculation, desirous only of the truth.

ON THE APPLICATION OF THE PRINCIPLE OF NATURAL SELECTION TO ANTHROPOLOGY,

IN REPLY TO VIEWS ADVOCATED BY SOME OF MR. DARWIN'S DISCIPLES.*

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THE object of the present communication will be to show that the recent application of Mr. Darwin's hypothesis of "Natural Selection" to anthropology by some of Mr. Darwin's disciples, is wholly unwarranted either by logic or by facts.

I have before called the attention† of anthropologists to the remarkable fact that some Darwinites are Monogenists, and, what is still more remarkable, that some Darwinites in this country are even now teaching as a scientific induction, that there is, at the

* This communication was read before the Anthropological Department of the British Association for the Advancement of Science at Nottingham, on August 24th, 1866.

† Carl Vogt's *Lectures on Man*, 1864.

present day, but one species of man inhabiting the globe. We are told that Mr. Darwin's theory has had the delightful effect of "reconciling and combining all that is good in the Monogenistic and Polygenistic schools."* This is the estimate of Mr. Darwin's hypothesis put forward by Professor Huxley. So, too, Mr. Wallace observes: "It is my wish to show how the two opposing views can be combined so as to eliminate the error, and retain the truth in each, and it is by means of Mr. Darwin's celebrated theory of 'Natural Selection' that I hope to do this, and thus to harmonise the conflicting theories of modern anthropologists."†

Mr. Wallace has, however, not drawn attention to the fact that diversity of existing species of man does not necessarily involve diversity of origin, for he asks the double question: "Are the various forms under which man now exists primitive, or derived from pre-existing forms? or, in other words, is man of one or many species?"

Professor Huxley, however, is fully alive to this fact, and I shall therefore take his views, and see how far his reasoning is sound.

In the first place, does Mr. Darwin's hypothesis warrant the assumption of the unity of origin of man claimed for it by the two of his disciples from whose writings I have quoted?

Professor Huxley says that Polygenists have failed to show a specific difference between any two species of man, and that the test of hybridity has failed. These are, however, mere matters of opinion on which we need not dwell. It may be that Professor Huxley is not satisfied with the sort of evidence which the advocates for the diversity of species of man have adduced; but perhaps he may long exclaim, as Rudolphi did more than half a century ago: "I have for years taught the natural history of man, and taught it according to the prevalent opinion of the unity of the human species, as Blumenbach has apparently established it with so much learning; yet, just because I taught it, there arose doubts in my mind which so much increased that I finished by teaching the opposite opinion." I hope, too, that Professor Huxley may be able to say with this author: "There is no point of knowledge so dear to me which I am not willing to abandon as soon as I am convinced of its falsity." I feel sure, however, that he will agree with this celebrated author in the sentiments he has expressed, that "if there be a duty of a teacher, it is to tell his views openly."‡

But to go on from Professor Huxley's opinions to his statements

* "Methods and Results of Ethnology", by Professor Huxley, *Fortnightly Review*, No. 3.

† *Journal of the Anthropological Society*, vol. ii, p. clix.

‡ *Über die Verbreitung*, etc., 1812.

and his facts. Amongst the former, I find this assertion: "Surely no one can now be found to assert that any two stocks of mankind differ as much as a chimpanzee and orang do." Now, if Professor Huxley simply means in physical structure, this statement may have some truth in it; but if it is to be put forward as a general statement that in the totality of anthropological characters there is not so great a difference between any two species of man as between these two species of apes, I think that question may be one which is fairly open to debate. I have, however, some three years ago, made what I then believed, and still believe to be, a fair deduction on this subject in these words: "That there is as good reason for classifying the Negro as a distinct species from the European, as there is for making the ass a distinct species from the zebra; and if, in classification, we take intelligence into consideration, there is a far greater difference between the Negro and the European, than between the gorilla and chimpanzee."

Professor Huxley speaks of the "overwhelming evidence in favour of the unity of the origin of mankind afforded by anatomical considerations." In the first place, I contend, on the authority of very many anthropologists, that the evidence is not of the nature described; secondly, that many of our best anthropologists consider these grounds alone to point to an entirely different conclusion; and, thirdly, I believe that such characters only, however uniform, cannot of themselves afford "overwhelming evidence in favour of unity of the origin of mankind."

With regard to this last point, I am quite prepared to admit that man should be studied like any other object in nature. I do not claim for him any faculties which cannot be as clearly demonstrated as his physical characters; and, on the other hand, I contend that men of science have no right to base the classification of mankind either on anatomy or any other single point of observation. I say more. Anthropologists are bound to take the totality of the characteristics of the different types of man into consideration. Man is chiefly distinguished from the apes by his mental characters, and it is to these that we must look for assistance in our systems of classification.

Professor Huxley objects to the terms "varieties," "races" and "species," "because each of these terms implies, on the part of its employer, a preconceived opinion touching one of these problems, the solution of which is the ultimate object of science." So far very good; but Professor Huxley is not content with such negative advice, but goes on to recommend the use of the words "persistent modification" in the place of "race" or "species." But does not the term "per-

sistent modification" equally involve a theory on the part of those who use it? As Hollard long ago well remarked, "To say that mankind has become modified is to say that the varieties of the human species are derived from the same type and originated in the same cradle." Let Professor Huxley demonstrate, if he can, that the difference between the chimpanzee and the gorilla, "admitted to be distinct species by all zoologists," is a whit greater than the distinction between the Englishman and the Congo Negro, the Hottentot or the Australian.

I am also curious to learn what induced Professor Huxley to make the statement that "no one can now be found to assert that any two stocks of mankind differ as much as the chimpanzee and orang do," when one of the most eminent living naturalists—Louis Agassiz—has long held, and says he is prepared to verify, the very opinions which we are now told "no one will assert." Agassiz's words are,—
 "I am prepared to show that the differences existing between the races of men are of the same kind as the differences observed between the various families, genera, and species of monkeys or other animals; and that these different species of animals differ in the same degree one from another as the races of men—nay, the differences between distinct races are often greater than those distinguishing species of animals one from another." He then expressly asserts,—
 "The chimpanzee and gorilla do not differ more from one another than the Mandingo and the Guinea Negro; they together do not differ more from the orang than the Malay or white man differs from the Negro." He concludes most emphatically,—
 "I maintain distinctly that the differences observed among the races of men are of the same kind and even greater than those upon which the anthropoid monkeys are considered as distinct species."

Professor Huxley writes as though all men of science agreed with him respecting the unity of mankind. I contend, however, that the highest authorities on this subject are of an entirely different opinion. To give some evidence that such is the case, I will quote a few of the opinions of those who have devoted most attention to this subject, and are worthy to be regarded with respect by all.

G. Forster, writing in 1786, says,—
 "The supposition that there were several original species presents at all events no more difficulties than the assumption of a single pair. If the Negro originated in Africa, the whites in the Caucasus, and the Scythians or Hindoos elsewhere, centuries may have elapsed before they came in contact. In looking upon the Negro as a distinct species, There is a certain old book which gives no description of the Negro, and the great man, its reputed author, has perhaps not seen a genuine Negro. Yet any one who utters the probability of a plurality of species makes

an attack upon this old book, and is deemed an heretic. These heretics are wicked people, and led by ignorance. But I trust a philosophical jury will find me not guilty."

Voltaire said,—“the first white man who saw a Negro must have been vastly astonished, but the reasoners who would persuade me that the Negro is descended from the white man would astonish me still more.”

Rudolphi (1810) says,—“the possibility of 5,000,000 of men descending from a single couple cannot be denied, but only by a chain of miracles could it be realised. Accidents of all kinds could as much have occurred to the first pair, and the propagation of the race would then have been abandoned by accident. Nature does not proceed thus.”

Steffens writing in 1822, says,—“it is evident that empirical natural science is forced to assume a fundamental difference of the human species. Races are unchangeable; that, which by external influences, such as climate, mode of life, etc., undergoes a change of form, is a variety, not a race. Races may alter, but only by interbreeding. . . . As naturalists we repudiate the notion of endeavouring to reconcile our notion with religious tradition. We keep simply to the facts.”

Dr. Morton of America wrote thus more than fifteen years ago, —“After twenty years of observation and reflection, during which period I have always approached this subject with diffidence and caution; after investigating for myself the remarkable diversities of opinion to which it has given rise, and after weighing the difficulties that beset it on every side, I can find no satisfactory explanation of the diverse phenomena that characterise physical man, excepting in the doctrine of an original plurality of races.”

Professor Bérard in 1848 thus expresses himself,—“I cannot conceive how a mind free from prejudice and unembarrassed by certain extra scientific considerations impeding liberty of thought, can entertain any doubt on the primitive plurality of human types.”

Rémusat, writing in 1854, says, “if there did not exist a certain instinctive repugnance to the belief in an original and permanent inequality between human beings, and if our mind had not the tendency to simplify everything, the examples furnished by animals, and the difficulty of rationally and scientifically accounting for the varieties of the human species, the doctrines of unity would have been long abandoned. The knowledge of the general law of nature opposes this doctrine.”

Rémusat also asks, “can we form an idea of an earth adorned by a single plant of each species? Where did the animals find food upon an earth so naked? How could the first couple of fish have lived in a desert ocean? What we have said of animals and plants may be applied to mankind. Reason certainly sees no objection that the conservative profusion should also have presided at the formation of mankind, which may have appeared at once or successively in different

parts of the globe. This hypothesis, of which we do not undervalue the difficulties, better explains the difference of race. At any rate we cannot but hesitate to suppose that Providence would expose a single couple, and with it the whole future race, to be destroyed by some accident. Such is not the order of nature as science teaches us. If, then, our theory be rejected, we must suppose that in primitive times there reigned an order different from that furnished by actual data."

Burmeister, writing in 1856, says,—“After what has been stated we are justified in contesting the possibility of the descent of mankind from a single pair; we feel, on the contrary, compelled to assert the descent from many protoplasts. This may even be proved by the colour in different races. If all races descended from a single pair, all the shades must be derived from a fundamental colour, which in my opinion is impossible. If the black of the Negroes were really a burned white, and if the yellow of the Mongols were intermediate, the copper-red of the Americans would not suit this scale. It might be asked why have the Australians and Papuans become black, whilst the inhabitants of the Society and Friendly Islands living nearer the line remained yellow brown, etc. The whole theory (of the unity of species) appears to the unprejudiced inquirer in so unfavourable a light that no one would have entertained the idea of descent from a single pair, had it not been taught by the Mosaic history of the creation. In order to sustain the authority of the Scriptures, a number of authors not sufficiently acquainted with the results of modern researches have been induced to defend the myths of the Old Testament. The number of these defenders seem to increase in proportion as science rejects this dogma.”

Giebel (1859) asks,—“do all men, zoologically considered, belong to one species? This question is frequently answered from a zoological standpoint in the affirmative. The more carefully the comparison (between the races) is made, the more striking are the differences. They affect the whole skeleton, the vertebræ, column, shoulder, pelvis, and limbs, and upon these again depends the form of the soft organs, so that the race differences, both external and internal, are so deeply marked, that the zoologist sees no more races, but so-called typical species. Mere zoology can come to no other result than to assume specific differences among mankind.”

Dr. Robert Knox in 1862 thus expressed himself after studying the subject for forty years :—

“Men are of different races palpably distinct. These races are entitled to the name of species. These species, though distinct in themselves, form groups so as to constitute one or more natural families. As in animals so in man, who also is one. The affiliated races, although strongly resembling each other, yet differ remarkably, as well physically as morally, in a way wholly inexplicable, but on the principle that essentially they are not of distinct species or races, however originating. This difference in moral and physical qualities so remarkably distinguishing even the European races (mostly formed into

nations) is best seen by referring to their various forms of civilisation, to their religious follies or belief, their antagonism to each other, and generally to the view they each take of the external world,* which constitutes or gives a tone, as we say, to the character of their civilisation. . . . Distinct epochs or acts of creation imply a miracle; and miracles are impossible. The philosophy of Goethe, adopted by Geoffroy St. Hilaire, Oken, and some popular writers, is most probably the correct one; but the really scientific men do not as yet look on the theory as established on a strictly scientific basis. . . ."

It has long been the fashion for men of science not specially acquainted with the science of man to declare that the great and learned Prichard's conclusions on this subject ought to have considerable weight on the question of the diversity of races. There are many indications in Dr. Prichard's writings that even he was becoming alive to the difficulty of his own theory, for in one place he remarks:†—

"If it should be found that within the period of time to which historical testimony extends the distinguishing characters of human races have been constant and undeviating, it would become a matter of great difficulty to reconcile the conclusion (*i.e.* the unity of all mankind) with the inference already obtained from other considerations."

Now ever since the time this was written, some twenty years ago, all researches have tended to show that from the very earliest dawn of history races have existed as they are now. I believe that there is not a single authenticated example of such not being the case. Indeed, the tendency of modern research is to show that the differences in mankind were formerly at least as great physically as they are now. As Dr. Nott has well remarked:—

"History, traditions, monuments, osteological remains, every literary record and scientific induction, all show that races have occupied substantially the same zones or provinces from time immemorial."‡

Or as Mr. Luke Burke some eighteen years ago§ remarked:—

"Let there be pointed out any one nation or race of men which has changed its physical peculiarities, or any portion of them, without mixing its blood, and we give up our theory. Or let there be pointed out any one nation or race which once existed in a barbarous state, and subsequently raised itself to civilisation without mixing its blood or receiving instruction from foreigners, and we give up our theory. . . the lesson all history and all human experience have been teaching for ages; but carried away by a favourite dream, men have slighted or misunderstood this lesson. Where, we ask, are the historic evidences of universal human equality or unity? The farther we trace back the history of the past, the more broadly marked do we find all human diversities. . . . Such are the lessons taught by universal

* *Races of Man*, 2nd ed., p. 591.

† *Physical History of Mankind*, preface, vol. iii.

‡ *Types of Mankind*, p. 77.

§ *Ethnological Journal*, 1848, p. 30-33.

history ; lessons which speak not of human equality and unity, but of great and permanent diversities among mankind."

Carl Vogt,* one of the last and most logical writers on anthropology, says on this subject :—

"However much we may indulge in theological speculations on the origin and differences of mankind, however weighty proofs may be adduced for the original unity of the human species, this much is certain, that no historical nor, as we have shown, geological data can establish this dream of unity. However far back our eye reaches, we find different species of man spread over different parts of the globe."

If such a question as the unity or plurality of origin, or unity or plurality of existing species, could be settled by the opinions of those who from their study and other opportunities are capable of understanding the giving an opinion on their subject, the decision would, I believe, be on the side of the polygenists.

Dr. Prichard gave a very good reason why we in England did not hear more of the diversity of race, when he says of such views,—“If these opinions are not every day expressed in this country, it is because the avowal of them is restrained by a degree of odium that would be excited by it.”† There is one conspicuous instance of scientific honesty and consistency to be found in England, of a man who for half a century has manfully endeavoured to combat popular prejudice. I allude to my esteemed friend, Mr. John Crawfurd. May he long be spared to battle against the new form of monogenism which is attempting to arise amongst us. May he live to see the time when men of science will no longer lend the sanction of their names to the doctrine of the intellectual and moral equality of the different species of man. But not to dwell further on opinions, let us examine the arguments and facts in favour of unity on the Darwinian hypothesis.

Professor Huxley apparently declines to admit mental phenomena as any part of his principles of anthropological classification, but is he, or anyone else, justified in doing so ?

Some time since Professor Huxley remarked,—“It is quite certain that the ape, which most nearly approaches man in the totality of its organisation, is either the chimpanzee or the gorilla ; and as it makes no practical difference, for the purpose of my present argument, which is selected for comparison,”‡ etc. This is an important admission, and in a measure justifies the rejection of the hypothesis of the unity of origin of mankind.

Not long since the late Professor Rudolph Wagner remarked,

* *Lectures on Man*, p. 422.

† *Nat. Hist. of Man*, 1848, p. 6.

‡ *Man's Place in Nature*, p. 70.

"Just before Darwin's book appeared, the theory of the possibility or probability of the different races of mankind having descended from a single pair was considered as perfectly antiquated, and as having lagged behind all scientific progress; whilst now, to judge from the applause with which Darwin's theory is received, there is nothing more certain than the inference that both ape and man had, from their single progenitor, a form intermediate between ape and man." On this it has been well remarked by Carl Vogt, "Never was there a more incorrect inference"; and he adds, "No Darwinist—if we must call them so—has either raised that question or drawn the above inference, for the simple reason that it neither accords with the facts nor the consequences."^{*} And yet we find that Professor Huxley contends that the unity of origin of mankind is "overwhelming"; and Mr. Wallace says "Man may have been, indeed I believe must have been, once a homogeneous race." These are, indeed, startling assertions; and we ask supplicatingly when was this state? and why *must* mankind once have been of one race? First of all let us question Professor Huxley, and ask on what data or by what process of reasoning he arrives at the conclusion of a unity of the origin of mankind? We are asked to "extend, by long epochs, the most liberal estimate that has yet been made of the antiquity of man,"[†] as no form of the doctrine of progressive development could be correct. At that time, three years ago, only about nine millions of years had been claimed for man's antiquity. More recently, Professor Huxley has told us that since man has appeared,—

"The greater part of the British islands, of Central Europe, of Northern Asia, have been submerged beneath the sea and raised up again. So has the great desert of the Sahara, which occupies the major part of northern Africa. The Caspian and the Aral seas have been one, and their united waters have probably communicated with both the Arctic and Mediterranean oceans. The greater part of North America has been under water, and has emerged. It is highly probable that a large part of the Malayan Archipelago has sunk, and its primitive continuity with Asia has been destroyed. Over the great Polynesian area subsidence has taken place to the extent of many thousands of feet,—subsidence of so vast a character, in fact, that if a continent like Asia had once occupied the area of the Pacific, the peaks of its mountains would now show not more numerous than the islands of the Polynesian Archipelago."[‡]

After being called on to believe in "half-a-dozen Atlantises" we are told that "these rude and primitive families were thrust, in the course of a long series of generations, from land to land, impelled by encroach-

^{*} P. 464.

[†] *Man's Place in Nature*, p. 159.

[‡] *Fortnightly Review*, p. 276.

ments of sea or of marsh, or by a severity of summer heat or winter cold, to change their positions," and concludes the eloquent advocate of a form of Darwinism exquisitely imaginative, "what opportunities must have been offered for the play of natural selection in preserving one family variety and destroying another." And all this must be done to reconcile the original unity of origin of mankind: but not, I contend, on Darwinian principles, which lead to an entirely different conclusion.

We search in vain for any single fact adduced by Professor Huxley to show that man was ever at all different from what he is at present. On the contrary, we find the most positive statements in his own words that "there is not a particle of proof that the cutaneous change thus effected can become hereditary any more than that the enlarged livers, which plague our countrymen in India, can be transmitted; while there is very strong evidence to the contrary." Mr. Wallace, however, tells us that to be a Darwinite on his principles it is necessary to grant us a first condition—"That peculiarities of every kind are more or less hereditary," a proposition which he says "cannot be denied."

But Professor Huxley goes on to make an important admission with regard to the difference in mankind in these words:—"And as for the more important modifications observed in the structure of the brain, and in the form of the skull, no one has ever pretended to show in what way they can be effected directly by climate." So we have *important* modifications in the brain and skull of mankind. It is of course necessary that they shall be "modifications" of some pre-existing type; but it is well to gain the admission that the skull and brain differ in mankind. Let there be added to these the psychological characters, and we may yet have permission and a justification from Professor Huxley to say that mankind is composed of several species. In return for this we may then be able to compliment Professor Huxley on being a logical disciple of his great master.

I agree with the author of the above remarks with regard to the unsatisfactory nature of the supposed process by which climate is said to modify both skull and brain. That "no one has ever attempted to show" how these can be effected by climate is, perhaps, hardly correct. Several such attempts have been made from Hippocrates downwards, but with most unsatisfactory results. Indeed popular writers on this subject appear to be following the reckless speculations of some of our teachers in science. Thus Dr. George Moore, in his work just published on that interesting creature "The first Man," says with charming simplicity and modesty, "How, then, is a Negro produced? we answer in a word, by climate." But, like many other speculators, he does not

venture on any evidence except to give the opinion of Mr. Winwood Reade on the supposed degeneration of the Negroes on the coast, and he very fairly adds to the above statement, "a little patience will be required in adducing the proof."

But let us endeavour to discover the facts on which Professor Huxley bases his hypothesis of unity of origin of mankind. We have quoted from his speculations, and we now turn to his facts. We must then attempt to reconcile these as well as we can.

First of all, what is the evidence for this extreme antiquity advocated for man? I do not intend to enter into the value of the statements I have before quoted with regard to submergence and elevation of these islands and other parts of Europe. I am content to accept the conclusions of the geologist on this point, be they what they may. Granted, then, man existed millions of years ago, how does that assist the hypothesis of unity of origin of man? It is quite true that fossil apes have been already found from India to England, but the remains of man have not yet been found which differ perceptibly from the existing inhabitants of each continent. Professor Huxley admits that both "history and archæology are absolutely silent," and adds, "For half the rest, they might as well be silent for anything that is to be made of their testimony. And, finally, when the question arises as to what was the condition of mankind more than a paltry two or three thousand years ago, history and archæology are for the most part mere dumb dogs." He not only admits that the races of man now existing are "substantially what they are now," but remarks, "it is wonderful how little change has been effected by these mutual invasions and intermixtures," and says, "So far as history teaches us, the populations of Europe, Asia, and Africa were twenty centuries ago just what they are now in their broad features and general distribution. The evidence yielded by archæology is not very definite yet, but so far as it goes it is much to the same effect. . . . Beyond the limits of a fraction of Europe palæontology tells us nothing of man or his works." To sum up our knowledge of the past of man, says the same writer, "So far as the light is bright, it shows him substantially as he is now; and when it grows dim, it permits us to see no sign that he was other than he is now."

I have quoted somewhat at length from this author because it is as well we should see the list of facts on the strength of which mankind are called on to believe in their unity of origin. Not a fact in history or archæology can be brought forward to its support by its most accomplished advocate. We are asked indeed as men of science to have faith, because on some curious process of reasoning it must have been as they teach. We entirely fail to see a particle of foundation either in reason or

analogy for the unity hypothesis on Darwinian principles. We are called on to believe with those disciples in the unity of origin of mankind simply as an article of faith. There is no more foundation for a dogma promulgated on such evidence than for that taught by the majority of theologians in the present day. All we know is, that all science teaches man to be now much as he was when we first catch a glimpse of him at the dawn of history; and palæontology teaches us that there were fossil apes. Between these two facts all is darkness.

Professor Huxley asks,—“In still older strata do the fossilised bones of an ape more anthropoid, or a man more pithecoïd, than any yet known await the researches of some unknown palæontologist?” “Time will show,” he answers; but, without waiting to see what time will show, we are called on to believe that man’s place in nature is discovered, and that all the diversities in mankind are “persistent modifications” of some pre-existing homogeneous race.

Some of the processes of reasoning adopted by Professor Huxley are eminently curious and suggestive. Thus in the following sentence which indicates some trepidation as to the soundness of his own views, we read,—“It may be safely affirmed that even if the differences between men are specific, they are so small, that the assumption of more than one primitive stock for all is altogether superfluous.” Now it might be thought that if Professor Huxley had been a loyal disciple of Darwin he would not have been so very particular in exacting such rigid specific characters for all his species. Besides, if differences amongst men are “specific,” it is in vain to plead “they are so small.” As Vogt has well observed,—“the notion of species neither is nor can be fixed,” and that “practically every author conceives it differently.” What are species in London become varieties in Paris. But a still more remarkable mode of reasoning is brought forward on behalf of Darwinism. The science of anthropology is yet destined to demonstrate the truth to Darwinism! Professor Huxley thinks that the question of the phenomena of human hybridity rests on a very “unsafe foundation,” and that it failed notably in the case of the Pitcairn Islanders; but “it would not be at all astonishing if, in some of these separated stocks, the process of differentiation should have gone so far as to give rise to the phenomena of hybridity.” First of all we must get this mythical unity of races, then separate them; if there be any sign of hybridity—that proves the truth of Darwinism! Hybridity in mankind is thus to be used to establish the truth of Darwinian principles! The simple facts are not to be taken as they are, but we must accept a unity as an article of faith, and then believe in the truth of “natural selection” on the strength of their gratuitous assumption. Professor Huxley has absolutely put such conclusions

forward. His words are, "satisfactory proof of the existence of any degree of sterility in the unions of members of two of the 'persistent modifications' of mankind, might well be appealed to by Mr. Darwin as crucial evidence of the truth of his views regarding the origin of species in general."

That a man so eminently logical as Mr. Darwin has shown himself in many cases to be, would ever attempt such a thing as calling in the evidence afforded by the phenomenon of human hybridity to support his views on the origin of species in general, is a proposition I cannot at all agree to. But I wish to put it to other disciples of that great naturalist, if they consider that the phenomenon of hybridity in the different races or species of man proves the truth of "natural selection"? Personally I consider with Messrs. Broca, Vogt, Pouchet, and many others, that the existence of "some degree of sterility in the unions" of mankind is proved; but will any one support Professor Huxley in his assertion that Mr. Darwin is justified in assuming that human hybridity is "crucial evidence of the truth of his views regarding the origin of species in general"?

I shall be very sorry for Mr. Darwin's theory if that is the sort of "crucial evidence" it requires for its establishment. Supposing, however, we grant for the sake of argument, that the different species of man produce perfectly fertile hybrids which are indefinitely prolific, this does not prove the unity of man's origin. All naturalists know well enough that different species produce sometimes fertile offspring, while the offspring of universally acknowledged varieties are frequently infertile. What we may believe on such a subject is, that on crossing any two species of man, the same law follows as between any other species of animal. They are very properly called half-breeds, and always partake of the characters of both parents, and never resemble one only.

I have already alluded to Mr. Wallace's opinion that mankind must at one time have been of one homogeneous race, but in justice to that gentleman I must admit that he has very fairly acknowledged that we can only even conceive this by what he calls a "powerful effort of the imagination." His words are,*—"By a powerful effort of the imagination, it is just possible to perceive him at that early epoch existing as a single homogeneous race without the faculty of speech, and probably inhabiting some tropical region." I ought also to state that Mr. Wallace's views were advanced before those of Prof. Huxley. Mr. Wallace claims an equal antiquity for man with his colleague, and remarks,—“These considerations, it will be seen, enable us to place the origin of man at a much more remote geological

* *Journal of Anthropological Society of London*, vol. ii, p. clxv.

epoch than has yet been thought possible." So this author is not satisfied with nine millions of years, or even the large extension of that time demanded on this slight antiquity by Professor Huxley. It was in these remote ages that Mr. Wallace considers man to have been of one race; *before*, to quote the author's own words :—

"He had not yet acquired that wonderfully developed brain, the organ of the mind, which now, even in his lowest examples, raises him far above the highest brutes, at a period when he had the form but hardly the nature of man, when he neither possessed human speech, nor those sympathetic and moral feelings which, in a greater or less degree everywhere now distinguish the race. Just in proportion as these truly human faculties became developed in him, would his physical features become fixed and permanent, because the latter would be of less importance to his well being; he would be kept in harmony with the slowly changing universe around him by an advance in mind rather than by a change in body. If, therefore, we are of opinion that he was not really man till these higher faculties were developed, we may fairly assert that there were many originally distinct races of man; while, if we think that a being like us in form and structure, but with mental faculties scarcely raised above the brute, must still be considered to have been human, we are fully entitled to maintain the common origin of all mankind."

Now by a "powerful effort of the imagination" can we conceive the possibility of there ever existing a "being like us in form and structure, and yet with mental faculties scarcely raised above the brute?" Mr. Wallace takes back the unity hypothesis much further than Professor Huxley, for he contends that we must go back for this to a period when the animal we now call man had not speech, moral feelings, or even the nature of man. If we like to consider such a creature MAN, as Mr. Wallace is inclined to do, then he says we may be "fairly entitled to maintain the common origin of all mankind." If, however, this creature without the "nature of man" was a brute, Mr. Wallace allows, "we may fairly assert that there were many originally distinct races of men."

I maintain that the mythical creature described by Mr. Wallace has no right to be called man—not possessing his chief distinguishing characteristics, and if this be acknowledged, then Mr. Wallace is an advocate for "many originally distinct races of man." But Mr. Wallace, after asserting that mankind must at one time have been of a homogeneous race, and then going on to show that it was long before he had the "nature of man," follows up his reasoning by contending that the influence of the mind has stopped the process going on before the advent of intelligence, and that this one homogeneous race is now again reverting to its original state. The human family have been as it were out on an excursion. Speaking of the diverse

species of men as man, he says, "his mental constitution may continue to advance and improve till the world is again inhabited by a single homogeneous race, no individual of which will be inferior to the noblest specimens of existing humanity."

Such are the views of two of Mr. Darwin's most eminent disciples. Are these conclusions warranted by Mr. Darwin's hypothesis? Taking Mr. Wallace's view of the case, does the logical application of the theory of "natural selection" lead to the conclusion that existing mankind is gradually becoming of one race? I do not ask if this is a fact; that is not the point in question. But does the application of Darwinian principles lead to this conclusion?

Professor Huxley, we have seen, proposed to establish the truth of Darwinism by finding sufficient difference in the races of man to exhibit the phenomenon of hybridity; but his colleague will disappoint him if he does not soon do this, for we are again reverting to one homogeneous race. I wish now emphatically to ask which, if either, of the views of Mr. Darwin's disciples is in accordance with his own theory? For my own part I must confess that I think neither the views of Professor Huxley nor of Mr. Wallace are logical results of the working out of the principles of natural selection as propounded by Mr. Darwin.

Another curious application of a portion of the theory of natural selection is that propounded in a work by Mr. Andrew Murray.* Mr. Murray's speculations are more extraordinary than those of the more thorough followers of Mr. Darwin. He supplies anthropologists with some wonderful information in these words:—

"We have seen a race of man formed under our own eyes, the Anglo-, or rather the Europeo-American nation, as distinct and well-marked a race as any other; and yet the change has been effected over the whole region in which it occurs at the same time. The race has apparently not been produced by an American being born from an Englishman, and then by his propagating young Americans, but hundreds of thousands have had the same impress affixed upon them over the length and breadth of the land at the same time."

After telling us that he has recently become nearly a convert to Darwinism, he goes on to say:—

"Now, according to the reasoning in which I trusted there should have been no Anglo-American nation, the type should have been frittered away in a thousand different directions, a congeries of all kinds of different degrees of change should have been jumbled up together, leaving no distinguishable characteristic by which to know the American from any other nation. And yet, there he is, a nation, *per se*; known to *Punch*, known to passport officers, known to ourselves, easily identified, easily figured, and easily caricatured."

* *The Geographical Distribution of Mammals*, 1866.

Now it is perhaps useless to attempt to argue seriously with an author who uses the words "race," "nation," and "type" as convertible terms. Nor need I dwell on the opinions of a writer who seems to have taken his knowledge of anthropological types from *Punch*.

This author, however, tells us seriously that the Europeo-American people are "as well marked a race as any other." Such statements coming forth under the garb of science are really melancholy. Nor are the author's views any improvement on those propounded by other of Mr. Darwin's disciples. We can as easily believe in the change being effected by a miracle, as agree with the author that the change in the Americans was "affixed upon them over the length and breadth of the land at the same time."

But what makes this matter somewhat serious, is the fact that the author's change of opinion with regard to Darwinism is based on the change observed in the American people. He absolutely goes so far as to say of the passage I have quoted, "Such an *argumentum ad hominem* is hard to get over."

The author having informed us of the fortunate circumstance in the present state of science, that he is "not greatly concerned to explain the exact mode of operation of the laws evolving new species," goes on to say: "I have come to the conclusion to accept the fact that nature can produce a new type without our being able to see the marks of transition, and that she can alter a whole race simultaneously without its passing through the phase of development from an individual in whom the entire change was first perfected."* Such is the author's creed, and he no doubt believes in it if, like myself, he does not understand how such a thing is possible.

To Mr. Murray, however, belongs the honour of being the first man of science who has come forward and declared that there is a fact in historical anthropology which lends any countenance to the truth of the theory of development by "Natural Selection."

The change observed in Europeans who have settled in America is both a delicate and difficult subject. I do not attempt to deny the change in many cases; but my researches and observations lead me to believe that the change is not of that uniform character which the author asserts. On this point, however, I speak with some diffidence, as I have not been in America. I have, however, failed entirely to see the uniform change described by Mr. Murray in those Americans who have come under my own observation. On the contrary, I am of opinion that the types at present existing in America are as diverse as those now existing in those portions of Europe from which they originally departed.

* P. 6.

I have never yet seen any reason to change my views, which I imbibed from the late Dr. Knox, and which are accepted by many other modern anthropologists, that the change observed in the children of those Europeans who have settled for some generations in America is to be explained by the hypothesis of degeneration or deterioration. The real significance of the change we often observe is a very fair question to discuss; but to assume we have as yet a new type, or even a new race, "as well marked as any other," is utterly unworthy of serious consideration.

Mr. Murray is not content to offer to the world his own speculations, but undertakes to pronounce the views held by Dr. Knox to be "the dream or fancy of a clever but eccentric man."* Such a remark requires no comment from me. This author also tells us that Dr. Knox was "not, perhaps, too scrupulous as to the authenticity of his facts;" but I search in vain through the writings of that author to find such reckless statements as those advanced on behalf of Darwinism by Mr. Andrew Murray.

I see from some recent publications that such speculations as those to which I have called attention are just now finding favour with a few more or less scientific men on the other side of the Atlantic.

Thus, Mr. Hudson Tuttle, who is not unknown as an author, has just written a work entitled, "*On the Origin and Antiquity of Physical Man scientifically considered.*"† The addition of the last two words are certainly much to be commended to other writers on the origin of man. In addition to the above, we have also the following important statement of what the work contains in these words: "Proving man to have been contemporary with the mastodon, detailing the history of his development from the domain of a brute, and dispersion by great waves of emigration from Central Asia." In the following sentence we find the result of Mr. Wallace's teaching: "Applying the principles which govern the production of species of animals to savage man, to whom the name *brute*, or *man* are *alike applicable*, we shall endeavour to show how from this savage sprang the various races into which mankind are divided." The second conclusion of his work‡ must be eminently satisfactory to all Darwinians, *if true*: "There is more difference between the lowest man and highest Simiæ than between the highest and lowest Simiæ, or between the lowest and highest man. There is a perfect gradation in bony structure and in brain." The third conclusion is equally startling: "History unites mankind at a common source; locates their origin where the highest members of the animal kingdom are found." The fourth is still more remarkable: "The 'struggle for existence' indicates the

* P. 9.

† Boston, 1866.

‡ P. 257.

process by which the progress observed might have been evolved." We find, too, in this work it is stated by this last attempt to apply Darwinism to account for the origin of man, that "the inductions of science beautifully harmonise with the sacred traditions of mankind." I have no wish, however, to make either Professor Huxley or Mr. Wallace responsible for all this nonsense. I merely quote it as a caution to men of science against promulgating speculations respecting the origin of mankind before they have the slightest data on which to found them.

In France, happily, such speculations are estimated at their true value. The anthropologists of that country know too well the business and the methods of science to be found wasting their time in promulgating dreams respecting man's origin. They are content, with the majority of anthropologists in this country, to wait in patience for the discovery of the "some unborn palæontologist" spoken of by Professor Huxley.

In Germany, too, I am glad to see that a protest is being raised against the premature speculations of some of Mr. Darwin's disciples. In the new German periodical for anthropology just started, Professor Ecker in his introduction has alluded to that subject in these terms.* Speaking of the theories of man's origin, he says:

"This problem will have to be solved partly by the anatomist and partly by the psychologist. On the one hand, there will be requisite the most careful comparative anatomy of the body, especially the minute structure of the brain; and, on the other hand, the analysis of psychical functions. However much may have been done in this direction, much more remains to be done before we can indulge in any hopes to solve these final questions in relation to the genetic connection between man and the anthropoid animals, which have by the followers of Darwin been proposed too early. Whether palæontology and the theory of development will throw some light into this obscurity remains yet to be seen. But surely it is not the task of a serious science prematurely to discuss questions to answer which we lack materials."

It is to be regretted, however, that there are many writers in Germany who have recently written as though the question of man's place in nature were settled. The language employed by these writers does not differ greatly from what we have sometimes heard used against those who differ from them in this country. An illustration of this will be found in a work recently published by Dr. Reich. It will be seen from this, that we must not dare to classify man in a new order or kingdom, but must accept the classification of Linnæus as developed by Professor Huxley, or we shall be called some very

* *Archiv für Anthropologie*, Nos. 1 and 2, 1866.

hard names. Dr. Reich says: "What man is, and what position he occupies in nature, are questions that have at all times engaged the attention of anthropologists; theologians, philosophers, and jurists have also discussed it with but little profit to the science."

"Numerous ancient and modern authors have written long treatises concerning the pretended elevation of man above other animals, by drawing parallels between them, showing how far removed man was even from the ape. They talked of specific difference between man and brute ascribed to the former an immortal soul, to the latter a mortal soul, and denied to animals all mental qualifications. They even went so far as to assign to man a separate kingdom by the side of the animal, vegetable, and mineral kingdoms.

"But comparative anatomy and physiology, chemistry and natural philosophy, have established what has been surmised by great minds, and disposed of the dreams of false apostles of science, and put an end to the miserable inferences of such incompetent observers."

After quoting from the author of *Man's Place in Nature*, Dr. Reich goes on:

"Thus far Huxley. His words sufficiently indicate the position man occupies in the animal world. He shows that man stands not above the animals, but is himself an animal, and differs from his cousins, the apes of the old world, less than these differ from the other apes. This is a cold shower-bath for human pride! * * *

"Comparative anatomy, the guiding star in the knowledge of organised beings, has shown with mathematical certainty, that there is no member of the animal kingdom which is separated by a gulf from what is next to it; everywhere there is an uninterrupted transition. Nature takes no leaps; this is the great truth we ought always to bear in mind. Allied to comparative anatomy, physiology, by throwing light on the functions of the organs and the development of the individual, furnishes the key to the explanation of phenomena which, when not comprehended, engender in the ignorant, thoughts of mysterious forces, and other ideas of a heated imagination."

Happily, such teaching as this does not at present exert any great influence in this country. I must leave it for the audience to decide which are the false apostles and suffer from the effects of a "heated imagination;" those who assert that anatomy has shown with mathematical certainty that there is no gulf separating the different members of the animal kingdom; that nature takes no leaps; and that we know all the forces at work in nature: or those who, like myself, do not see sufficient evidence to establish either of these positions. With regard, however, to the charge that we must believe in mysterious forces if we do not accept the theory of natural selection, I must enter my protest against such reasoning.

Is the theory of "natural selection," as propounded by Mr. Darwin, sufficient to explain the origin of either races or species of man? I am

fully aware that much of the dissatisfaction which exists amongst English anthropologists with regard to Mr. Darwin's theory is greatly to be accounted for by what I contend to be the illogical manner in which that naturalist's disciples have attempted to work out that theory when applied to the origin of man as to comparative anthropology. Many of the present objections to Mr. Darwin's theory will be removed when it is worked out in the manner I have hinted.

At present, however, we are quite unable to show the causes which produce the formation of the different races of which the different species of man is composed. I cannot think that any advance can be made in the application of the Darwinian principles to anthropology until we can free the subject from the unity hypothesis which has been identified with it, especially by the influence of Professor Huxley. Professor Carl Vogt is doing all he can to show the fallacy of the unity hypothesis on the continent; and, as a logical Darwinite, well points out that the human type is not approached by any one ape in all points. He says,—“This much is certain, that each of these anthropoid apes has its peculiar characters by which it approaches man If, in the different regions of the globe, anthropoid apes may issue from different stocks, we cannot see why these different stocks should be denied further development into the human type, and that only one stock should possess this privilege. The further we go back in history the greater is the contrast between individual types, the more opposed are the characters.” This author thinks there is a tendency to unity; but he gives an adequate agent for such a supposed change in the fusion of the different species, viz. intermixture. I am quite willing to grant that the cause is adequate; but, as I interpret Darwinism, I consider that although some races may become diminished, there are at the same time others in course of formation. Do we not even now see in different classes of men a tendency to perpetuate their own characteristics? In fact, a coming unity rests on about the same evidence as a past unity.

Andreas Wagner not long since made some very sensible remarks on the absurdities which many distinguished naturalists have uttered, from Oken downwards, when they venture to demonstrate the genesis of man. He well remarks,—“It is therefore better to admit the insufficiency of our capacity, than to make ourselves ridiculous by forming hypotheses on processes which are hidden from us.”

Dr. George Moore has recently well observed,—“Man as he is has not yet been accounted for by philosophers.” He, however, goes on to say,—“If they do not possess power of mind equal to the explanation of a fact so common among natural phenomena as the present existence of themselves, the first step towards a correct anthropology

has not been taken." Now the question of the origin of man is not the *first*, but the *last* problem of anthropological science. He says that before we go further we ought, "from a knowledge of their own qualities as human beings, to say why they were made, who made them, and what is likely to become of them." In fact, that we ought to learn to read before we learn the alphabet. Nothing can be more deleterious to the cause of truth and science than that such views should go forth to the world unchallenged by men of science.

But while differing on some points from Professor Huxley, I feel bound to add that I for one do not join in the outcry which has been raised in some quarters against the manner in which he has studied and described man. On the contrary, I admire the honesty and moral courage he has displayed. I have only to complain of what I conceive to be his incorrect reasoning and his occasional dogmatic assertions.

No one can have read with greater feelings of indignation than myself, a charge which Dr. Moore has made more than once in his recent work *The First Man, and his Place in Creation*, that Professor Huxley "had undertaken his researches and assumed his character of seer and prophet on the ground of prejudice against Christianity." Such a charge is altogether too contemptible for Professor Huxley to notice; and I feel sure that every scientific man will agree with me in protesting against such a base insinuation. To impute motives for scientific opinions is not only unscientific, but most ungenerous.

It may not unnaturally be asked by those who hear my opinions on this subject, why I have undertaken to contest so strongly the views put forward by some of Mr. Darwin's disciples, when I accept the great principle of natural development to explain man's origin. The question of man's origin only presents itself to me in the two-fold aspect of plurality of origins in the way I have hinted, or of unity of origin in the manner advocated by Professor Huxley and Mr. Wallace.

If those eminent disciples of Mr. Darwin can demonstrate to me by fair argument that their views are most in accordance with reason and science, I shall at once relinquish my own.

In conclusion, I beg to express a wish that, in consideration of the conflicting views held on this subject, Mr. Darwin himself may be induced to come forward, and tell us if the application of his theory leads to unity of origin as contended for by Professor Huxley; and if, also, taking Mr. Wallace's views fully into consideration, and applying his own theory to Mr. Wallace's premisses, it then lends any support to the theory of a coming unity.

THE EARLY RACES OF SCOTLAND AND THEIR MONUMENTS.*

No country has a richer literature on historical anthropology than Scotland. Gordon and Chalmers have given valuable records of its antiquities; and the old statistical account of Scotland has preserved the remembrance of old customs and legends, as well of early monuments. More recently the action of the Society of Antiquaries of Scotland, led by such men as Simpson, Stuart, and Robertson, has introduced a more critical method of examination; and not a little has been revealed by excavations into remains, which for ages had been buried up. Dr. Daniel Wilson's able and elaborate *Prehistoric Annals*, though somewhat fanciful in his speculations and rhetorical in his style, has invested Scottish antiquities with a popular interest, for he has skilfully combined a number of scattered facts, and extracted from them some knowledge of the by-past ages. Lieut.-Col. Forbes Leslie's work on the *Early Races of Scotland*, which has recently appeared, is another important contribution to Scottish anthropology.

The title of the work is rather a misnomer; for there is little in it regarding distinctions of race. Indeed, the leading questions on the subject seem to be purposely excluded. Naturally, as anthropologists, we turned to hear the views of an accomplished and learned writer on the two pre-Celtic races, said by Dr. Wilson to have inhabited Scotland; but we are only told, "whether the Celtic superseded in Britain an earlier race, or were themselves the dimly-shadowed-forth earliest of prehistoric occupants of the soil or the forests, cannot yet be determined." No information do we gain respecting the crania found in Scottish tombs, nor indeed does Col. Leslie indicate the physical characters of the race whose history he examines. We obtain no help from him to decide between Lubbock and Wright as to the age of the leaf-shaped bronze swords; nor does he give any judgment whether Scotland had its ages of stone and bronze and iron. Perhaps, however, our author might consider that he had so much to say on other aspects of anthropology, that he might pass by questions not yet ripe enough for determination. Notwithstanding, there is much in his work to illustrate the historical division of anthropology, for he enters fully into the written records of the early inhabitants of Scotland, and carefully gathers up the scattered

* *The Early Races of Scotland and their Monuments.* By Lieut.-Col. Forbes Leslie. Edinburgh: Edmonston and Douglas. 1866.

notices of its mythology, superstitions, traditions, symbols, and inscriptions, which indeed are as important to the historical anthropologist as are fossilised bones to the geologist, for they enable us to read the psychical characters of early races.

Col. Leslie tells us, that his great object in examining the memorials of the races occupying Caledonia from the earliest ages to the end of the sixth century, was to discover the design of the Caledonian sculptures; and the first sentence of his work indicates the predominant idea by which he has been guided. In the fourth century, B.C., Hecateus mentions an island over against Gaul, as big as Sicily, under the arctic pole, inhabited by Hyperboreans, with a rich and fruitful soil and temperate climate, the inhabitants of which worship, above other gods, Apollo, who had there a stately grove and renowned temple of a round form, beautified with many rich gifts; the inhabitants had a language of their own, and had been visited by Greeks who had made divers gifts inscribed with Greek character. Our author thinks this island was Britain, the temple Avebury, the people Celts, the priests Druids, the god Belenus; and that at this period Britain and Gaul had a common language and religion; and, in accordance with this view, early monuments and inscriptions, old superstitions and usages, are traced to the Celtic race.

In his account of the Races of Caledonia, Col. Leslie considers the mass of the early population to have been Celtic; and, guided by Dr. Latham, he formally propounds his views in eleven propositions. At the beginning of the historic era he finds Gaels in northern Britain, in Ireland, and in the Western Isles; these were the first immigrants from the continent of Europe; and had originally come from the east, through Syria, Egypt, along the north-east coast of Africa, and to Spain and Gaul, where they split into two branches, one of which ended in Britain. Another immigration, the Britons, followed from the same source, taking a more direct course through Scythia, Scandinavia, and across the German Ocean to Britain; and, pressing on the earlier immigrants, drove them northward and into Ireland. Stone monuments in the Dekkan in India, in Persia, Syria, Italy, Spain, and Armorica, similar to those found in the British Islands, are adduced as confirmatory of these general views. The Gaels, however, appear at a subsequent period split up into several distinct tribes; there were Albannaich, or the Caledonians, or Picts in Scotland, and identical with these, the Cruithne in Ireland; there were the Scots chiefly occupying Ireland, and, in smaller numbers, a portion of the south-west of Scotland; and besides these, there were the Attacots, of whom little is known, but who are spoken of by St. Jerome as cannibals, and by Ammianus Marcellus as warlike.

The historical notices of the Picts are very scanty ; and their sudden and strange disappearance from the page of history has puzzled Scottish and Irish historians, and given rise to bitter controversy. Were they Gaels or Scots? Were they annihilated or absorbed, or were they merely an existing tribe under a changed name? They are first referred to the third century, and Eumenius the orator, in 309 A.D., speaks of "*Caledonii et alii Picti*," leading us to infer that the Caledonians were a tribe of the Picts. Beda, writing in 730 A.D., states that there were five languages in Britain: the British, Pictish, Scottish, English, and Latin; and as there is no mention of Caledonian or Gael, and, as in another part of his history we learn that the Picts came from the north, it may be conclusively inferred that the Gaels, Albannaich, or Caledonians, were indicated by the name Pict, until that name became superseded or replaced by Gael. Scots had existed from an early period (from at least 360 A.D.) in the south-west part of Caledonia; but in the beginning of the sixth century, receiving an important accession from Ireland—important, not for numbers, for the whole band consisted of only one hundred and fifty, but, from the rank and ability of the leaders—they founded about Argyleshire a kingdom dependant at first on the Dulraid Scots of Ireland; but which, increasing in power, became independent, and its sovereign in the ninth century achieved the conquest of the Pictish kingdom, and gave their own name—that of Scotland—to the whole of North Britain. Notwithstanding this change of dynasty, the language continued to be Gaelic.

"It does not seem," says our author, "now to be maintained that what is sometimes called the Scottish Conquest was otherwise than the royal race of the Picts being supplanted, possibly after they and their adherents had been defeated by their relations and rivals of the Scottish royal race in the ninth century. Neither can it be successfully urged that it was after this event, in A.D. 843, when the Scots of the Irish branch obtained the kingly power in the south and east of Caledonia, that the mountains, rivers, and remarkable places of these fertile parts of the country first received their Gaelic names, and that the inhabitants of these districts then and at once adopted the Gaelic language."

Col. Leslie assigns reasons for believing that the Phœnicians were, to a limited extent, an element in the early population of Britain, and that in a more considerable degree they influenced the manners and customs of its Celtic inhabitants. What the Druids were to a former generation of antiquaries, the Phœnicians are now to modern speculators; residuary phenomena—things which cannot be accounted for—are referred to Punic influence or colonisation. Col. Leslie is, however, more moderate in his views, which are chiefly based on a

supposed similarity of the worship of the Phœnicians and of the ancient Britons. Sun or Baal worship were, he thinks, common to both; yet, admitting this to be the case, which, indeed, is doubtful, the inference by no means follows; for almost all nations who have advanced beyond pure Fetichism, have more or less revered and feared planetary influences. Professor Nilsson, in a recent Memoir on Stonehenge, has carried this notion to an extravagant length; according to him, Stonehenge was the renowned or remarkable temple dedicated to Apollo; and such monuments in Britain were Phœnician, and connected with the rites of Baal, like their congeners at Tyre, and in the Valley of Bethel. Doubtless the Phœnicians, from a very early period, traded with the Britons for tin, and gave in exchange their own manufactures and the productions of other countries, including probably the crude bronze, out of which the Britons made their leaf-shaped swords and other weapons and instruments, and the glass beads and armlets found in dwellings of the so-called bronze age. But beyond commercial interchange, there appears no further connection or influence; no evidence of colonising; no Phœnician inscription has been found in Britain, nor any trace of the Punic language in British nomenclature. Professor Nilsson refers to the inscription on the Newton stone in Aberdeenshire as Phœnician; but for this there is not evidence. Col. Leslie is more cautious, and passes no judgment on this inscription, which has been a sad puzzle to scholars, and has given rise to such a diversity of explanation as to present the appearance of a burlesque on archaic philology. Dr. Mill says the inscription is Phœnician, to Eshmun, the god of health. Dr. Davis also regards it as Phœnician, but to Atalthan, son of Puzach. Another authority makes it Celtic, indicating a boundary stone. Mr. Thomas Wright tells, in the most confident manner, it is Latin, to Constantinus. Mr. Brown says the characters are Egypto-Arabian, giving a list of names; and Dr. Moore writes a long and learned dissertation to show that the characters are Arian and the language Hebrew, and that the inscription is to Attie, who is with the dead. Nothing of value can be extracted from such contradictory expositions.

The speculative theories of Dr. Wilson and Professor Nilsson, and some others, have tended to dethrone the Druids and reduce the Celts to insignificance. The relics which were formerly attributed to the people inhabiting Britain, when Cæsar invaded it, are transferred to mythical races who lived long before in the dark ages of the past. These notions are based on craniological evidence only; but however much we value careful determinations of cranial race characters, we concur in the opinion of Dr. Thurnam, "that unless archæological

evidence could be added to that of cranial developments, the question of age must be left very much in the dark." There is a strong presumption from authentic history, that the antiquities associated in Britain with the Brachycephalic men were the Celts of the pre-Roman period. We certainly find them at the dawn of history to be numerous and warlike, and so far advanced in art, as to have iron weapons and war chariots; and in civilisation, as to have established governments—a system of polity, and learned men to administer law and conduct religious ceremonies. Could such a people, who had doubtless existed in Britain for many centuries, pass away without leaving many and marked traces behind them? Col. Leslie brings us back to history, and in his chapter on religion gives a fair statement of what it tells us of the Druids and Druidical worship. He endeavours with much acuteness and learning to trace to Druidism many superstitious usages, which existed a few generations ago, or which still continue to exist in Scotland; and though some of these may with more probability be referred to other sources, yet his dissertations contain much that is curious and instructive. Witchcraft descended, he supposes, from Druidical superstitions and practices. That the life of one man could be redeemed by the life of another was a belief among the Gauls; and a similar belief existed in Scotland in the sixteenth century, and influenced the ceremonies of witchcraft; Marionne M'Ingaruch, a notorious witch, in 1588, pronounced that to save the life of Baron Fowlis his next younger brother should be sacrificed.

Col. Leslie thinks that there is clear evidence of the prevalence of solar and planetary worship from Dondera-head in Ceylon to the Himalaya mountains, and from the borders of China to the extremities of Western Europe and its islands. The Parsees in British India still worship light, symbolised in the sun and fire. The religion of Gautama Buddha, which more than twenty centuries ago was established in Ceylon, has not eradicated the *Bali*, planetary worship, which co-existed with the *Naga* or snake worship, and with a belief in the genii of fountains and streams, trees and forests, rocks and mountains, and in malignant demons producing various forms of pestilence. The heathen inhabitants of Britain, according to our author, worshipped an equally numerous and nearly identical accumulation of objects. *Bel*, in Cingalese, signifying power; and *Baal*, *Bel*, Belus in Assyria, Palestine and Phœnicia, implying dominion and equivalent to Supreme God, are used as expressive of solar and planetary worship. As evidence connecting Britain with Baal worship, Col. Leslie adduces the names of the two earliest British kings known to history, Cassibelan and Cunobeline, both of whom by Nennius are simply called

Belinus. Doubtless superstitious usages originating in sun worship lingered long in Britain. From the Penitential of Theodore, Archbishop of Canterbury, we learn, that in the seventh century women passed their children through the fire and exposed them on the housetops to restore or insure their health; and by the laws of Cnut the worship of the sun was forbidden.

"In Scotland there was a practice described by an eye-witness, that after a child was baptised, and on the return of the party from church, the infant was swayed three times gently over a flame; or, according to another authority, the child was handed three times across the fire. In Perthshire, in cases of private baptism, there was a custom of passing the child three times round the crook which was suspended over the centre of the fire."

Such practices closely resemble the usages of the Jews and Canaanites in passing children through the fire to Baal or Moloch, to whom, indeed, they were sometimes sacrificed as burnt-offerings. The most distinctive relics of sun worship are, however, seen in Beltane, the fire of Bel or Baal, which was kindled in Scotland, it is supposed in honour of this God, on Midsummer eve, afterwards called the vigil of St. John, on All-Hallowe'en (31st of October); and on Yeule, which is now Christmas. These fires were kindled on hills and conspicuous places in level districts, not only in Scotland, but also in Ireland and Cornwall. In the north of England *bonfires* were lighted by corporate authority in the market places of borough towns on St. John's vigil; and we have seen records of yearly payments of such fires down to the beginning of the eighteenth century. At Callander, in Perthshire, the celebration of the Hallowe'en mysteries is remarkable; and suggests what may have been one object of "the separate" monoliths forming a circular fane. The Bel fires were lighted on the rising grounds and villages, and the ashes left from the burning were collected in the form of a circle, near the circumference of which a stone was placed for every person of the several families interested in the bonfire; and if any stone was moved out of its place before morning, the person, whom it represented, was devoted to *Fey*, and it is supposed would die within twelve months from that day.

Notwithstanding the number of interesting illustrations Col. Leslie has gathered of the remains of sun worship in Scotland, it is far from being proved that they have been derived from the Druids. Indeed, historical evidence indicates that sun worship, if it existed at all amongst them, held a very subordinate place in their mythology, and that the remains of sun worship in Britain are of Teutonic origin. Caesar tells us that the chief god whom the Britons worshipped was Mercury, the inventor of the arts; Apollo came after him, and he was not recognised as connected with the sun or any planet, but as the

curer of disease. More important still, in reference to this question, is the account Cæsar gives of the gods of the Germans—a race who in after times modified and to a large extent formed the religious ceremonies and superstitions of Britain. Of them, we are told, that they had no Druids, and that they reckoned among their gods those only who could be seen, such as the sun, the moon, and fire.

Besides, however, planetary worship, Col. Leslie finds traces in Scotland of the worship of spirits, atmospherical and terrestrial, arising from the fear or reverence of portentous phenomena, and resembling the adoration given to such objects by the ancient Hindus of the Vedas, and the earliest inhabitants of Tyre and Sidon; but he might have added, that such reverence and fear are common to almost all nations in their early stages of civilisation. The Spirit of Ethereal Fire, a female deity, named *Cailleach Vear*, has a conspicuous place among the legends of the western Highlands; her residence was on the highest mountains, and a great stone—*Cailleach Vear*, the mountain of thunder—preserves her name. *Water-Kelpies* were “angry spirits of the waters,” and when heard in the storm, wildly neighing or hoarsely bellowing, they presaged misfortunes; or emerging from the sea or lake in the form of a horse they tempted the unwary to mount on their back, that they might dash with the rider into the depths of the flood. The *Spirit of the Earth* had set aside for him minute portions of untilled land, once numerous in Scotland, called “the gudeman’s croft”. Sir James Y. Simpson, Bart., stated, in 1861, that, not many years ago, a relative of his, on taking possession of a farm he had bought, cut off a small triangular corner from a field, within a stone wall, as the “goodman’s croft”, an offering to the Spirit of Evil, in order that he might abstain from ever blighting or damaging the rest of the farm. Col. Leslie remarks—

“The Celts judging from a few recorded facts and the remains of many superstitions, had an infinity of local and inferior genii. Of these, some were supposed to be benevolent, but the majority were considered mischievous. The number of elves or imps, in Gaelic, is of itself a proof of a Celtic belief in a crowded pantheon. Not only mountains and hills, rivers and fountains, had their peculiar deities, but even at the present day, many a green mound in the vales, or bright sequestered spot in the mountains, is shunned by sturdy peasants who would not fear the hostility of any mortal. The prefect of a Gaulish cohort, who erected an altar on the limits of Caledonia, has summed up, in small compass, the whole invisible world of the country. His altar is dedicated ‘To the Field Deities of Britain.’”

Pagan ceremonies, connected with the fountains and wells, have been more prevalent and continued longer than any other. Gildas refers to the worship of rivers and fountains in Britain; and both

civil and ecclesiastical laws were directed against it in Gaul and Britain. Col. Leslie finds such ceremonies particularly cherished in all these places, where a Celtic population had the most enduring and predominating influence, and he would, indeed, connect them with Sun worship. On Beltane day, sacred fountains were approached *deasil*, or sunwise, and in the same direction would a procession go three times round it; offerings were then made to the Spirit of the Fountain by hanging rags of clothing on trees and bushes, or by casting a metallic body into the fountain. We have ourselves seen the bottom of a sacred well, at the base of a hill in the north of England, crowded with crooked pins; and at the present day, every maiden or young man, passing that well, drops into it a crooked pin and inwardly breathes a wish, in the full belief that, before a year has run its course, the wish will be realised. Some few generations ago there was a gay procession to this well on May morning, when the ceremony was more formally and publicly performed.

Colonel Leslie takes a wide survey of ancient stone monuments, describing not only those in Scotland, but others in England, Ireland, Armorica, Palestine, and India. He adopts the French nomenclature, which is more definite than our own, and calls the monolithic stone circles *cromlechs*, and he applies the term *dolmen*, a table stone, to those singular structures which in England are called cromlechs, and by some Druid's altars. Besides these there are, *menhirs*, long stones; *pulvens*, monoliths of less size; barrows, cistvaens, and *galgals* or cairns. There is still much division of opinion as to the age, the builders, and uses of these stone monuments. Of great antiquity they doubtless are; and no one is inclined to refer them to a period much later than the Roman invasion, but some would carry their age back far beyond the time when Phœnicians were supposed to trade with Britain, and influence the manners and religion of the people, even to that mythical period when a low type of man, ignorant of metals, inhabited the island. Sufficient evidence there is to prove that they were pre-Roman. Stonehenge, probably one of the most recent of the circular fanes in Britain had been constructed during what is called the bronze age; for out of one hundred and fifty-two interments which have been examined around Stonehenge, thirty-nine of them contained bronze objects; and in a hundred and twenty-nine cases the body had been burnt. It would seem too, that the builders were brachycephalic, the round-skulled men, who, according to Dr. Thurnam, were buried under round barrows, and who, so far as we at present know, were the race occupying the central, and certainly the northern parts of England when Cæsar invaded it. Of the purpose of such monolithic structures there is less certainty. Colonel Leslie

finds them in India, Persia, Palestine, and Africa, as well as in Europe; those in the Dekkan are remarkable, where they are dedicated to the god Vetal or Betal. One has a circular space, twenty-seven feet in diameter, enclosed by twenty-three stones, three of which are three feet high, and the others smaller. Each of these stones is marked near the top with a large spot of red paint, typical, it is believed, of sacrifice. While Colonel Leslie considers the stone circles in Britain to have been temples used by the Druids for religious worship, he also regards them as places for judicial and inaugural purposes. So late, indeed, as May 2, 1329, there is a record of a court held "apud stantes lapides de Raine." But though it may be admitted that the larger stone circles were used for these objects, many of the smaller ones were places of sepulture. Our author might have derived important information from recent researches by excavations. Several were excavated in the island of Arran, and others near Shap in Westmoreland, and found to be sepulchral. A different result was obtained from the excavation of an oval stone circle, three hundred and forty feet in diameter, at *Three Stone Burn* on the flanks of the Cheviots in Northumberland; there were no interments nor any indications of a sepulchre, but charred wood was found on the surface in several places, and a fragment of a flint knife with two cutting edges. Colonel Leslie gives a full account of the most important circular fanes; and he adduces one striking argument in favour of the eastern origin of such temples. He says:—

"The areas of temples, open, and only designated by masses of rock, with their long avenues of unhewn columns of stone, are well fitted for religious ceremonies and processions, and for judicial and civil purposes, in a warm climate, and under the blue sky of tropical countries. The reverse is the case as regards the cloudy atmosphere and uncertain weather so prevalent on the promontories of Armorica and in the British Islands, and is a very strong argument for considering that the pagan fanes of these countries were modelled from Asiatic originals. Nations, whether tempted or impelled onwards, or migrating in obedience to some law of our nature which has led to the diffusion of mankind, would doubtless preserve the form of their ancient places of worship and assembly, and circular temples defined by small pyramidal shaped stones, such as may often be seen extemporised in the Dekhan of India, could always have been prepared when the migrating horde halted on a journey or rested for a season."

Our author's theories regarding *Dolmens* are, perhaps, the most unsatisfactory in the whole work, for too little use has been made of the facts elicited by explorations. He considers them as altars for sacrifices; but the weight of evidence tends to prove that their primary use was that of sepulture. However we may differ from the author

on this and several other expositions which he gives, we respect the learning, the candour, and clearness of description, which give value to his account of menhirs, dolmens, earth-fast stones, perforated and rocking stones, cairns, barrows, and Caledonian strongholds.

The great object sought by Col. Leslie, in his various elaborate investigations, is to elucidate the meaning of the Caledonian hieroglyphics or sculptured stones. There are three kinds of sculptured stones in Scotland, each of a different age. There are the Northumbrian symbols of which we recently gave an account in our review of Mr. George Tate's memoir on them. Though spread more or less over the whole island from the Orkneys to Devonshire, and into Wales and Ireland, their centre, as it were, is in Northumberland, where they occur in the greatest number and variety of form; in Scotland they are chiefly in Argyleshire, where the Dalraid Scots had a kingdom. As Mr. Tate remarks, "their wide distribution over the British Islands evidences that at the period when they were made the whole of Britain was peopled by tribes of one race, who were imbued with the same superstitions, and expressed them by the same symbols." These are most probably the oldest sculptures in Britain, and as yet the typical forms have not been found in other countries. They are associated in Northumberland with a brachycephalic race, and with relics of the so-called bronze age. The second class of sculptures, which are incised on unhewn monoliths, are more limited in their distribution, being confined not merely to Scotland, but almost entirely to its North Eastern part, where the Pictish kingdom flourished before it was overthrown by the Scots. There are five principal forms:—

1. Two circles or groups of concentric circles connected by curved lines, and crossed by a Z figure, with sceptre-like ends.
2. A crescent crossed by a V figure with similar sceptre-like ends.
3. A serpent crossed with the Z figure.
4. An upright rectangular figure crossed by the Z sceptres.
5. A mythical animal, generally supposed to represent an elephant, and considered by Colonel Leslie, but on very insufficient grounds, to be the *Asiatic* elephant.

Other figures less peculiar occur on such stones, as the horse, bull, boar, bird, fish, mirror, comb, and a horse-shoe arch. The third class of sculptures belong to the Christian era, for among them is the cross; the Christian symbol; and besides being in relief, they exhibit the beautiful style of ornamentation, which prevailed after the introduction of Christianity into Britain down to the eleventh or twelfth century. Other objects are introduced indicating foreign influence, such as the centaur, the hippocampus, the camel, the monkey, and various monsters; but these later sculptures are of value in determining, within a limit, the age of what we may call the Pictish symbols, for these symbols occur on the

artistic stones with the cross, proving that they had been in use during the period immediately preceding the introduction of Christianity into the North of Scotland. Older they are than that period, but how much it is impossible to say ; they are, in many cases, contiguous to circles of unhewn stones, and to ancient hill-forts ; and what is more important still, as determinative of their antiquity, one of these sculptures, that of the symbolical elephant, was found on a stone forming part of a sepulchral cist, which contained a rude urn and a bronze dagger.

"In regard to the people," says Colonel Leslie, "who introduced or executed these hieroglyphic sculptures, two theories present themselves—viz., either that they were introduced by a later body of Celtic immigrants than those who probably reared and certainly occupied the unhewn monolithic fanes, or that they were introduced through the influence and example of foreign traders and settlers. The two theories may be conjoined, and we may imagine that some of the figures were brought by the early Celtic immigrants, and that they afterwards adopted others through external, possibly Phœnician influence. Some of these emblems indisputably, and all of them probably, are of Oriental derivation The Celts are the race, the Picts the people to whom must be attributed the execution and erection of the sculptured stones of Scotland."

In accordance with these views, our author regards these sculptures as religious emblems, and he seeks from eastern sources a key to their meaning.

Professor Westwood was led to think, from the Z symbol resembling a figure on gnostic gems and coins bearing cabalistic inscriptions, that the Scottish sculptures may have been intended to refer to the perpetual conflict between the cross, and false doctrines and worldly pursuits. Dr. George Moore, who has recently attempted an explanation of them, says "they had a distinct relation to the Buddhistic religion ;" the V and Z symbols, together with discs, he discovers on several Buddhistic coins of north-western India, on which are legends in Aryan and Sanskrit characters ; the *discus*, according to Buddhism, signified infinite space, time or eternity ; when concentric, the circles symbolised systems of worlds or successive and connected periods of long duration ; the crescent symbol signified the dome of heaven, and may have had a relation to lunar worship ; "the signs at the terminations of the Z symbol are," he says, "doubtless significant of the power of Buddha in relation to punishment" ; in reference to the symbolical serpent, he remarks, "the wand of power, which signifies also the sun's path in the heavens, would, when intertwined with the serpent, express the everlasting dominion of Buddha, attained as a man in the conquest of all evil." Colonel Leslie's expositions are of a similar

speculative character; he imagines the double disk and sceptre, in some way, emblematic of the sun, and connected with solar worship; the crescent and sceptre, an emblem connected with the worship of the moon; the serpent and sceptre, an astronomical as well as a religious emblem, connecting planetary worship and healing powers, for the serpent, according to eastern mythology, represents both a malignant and beneficent influence from its fabled subtlety and wisdom; the upright figure crossed by the Z he calls a fire altar, and links it with the Beltane fires; and the elephant-like figure has reference to astral and atmospheric worship.

Colonel Leslie illustrates his views with much ingenious learning and curious information; but he, as well as other speculators, have completely failed to show any identity between the Pictish symbols and figures found in other parts of the world. They as yet stand alone. Circles, crescents, curves, and angles are abundantly used for decoration or emblems; but they are such forms as would be readily adopted by any nation; and in their application to decoration or worship they might originate in a thousand independent sources. The figures on gnostic gems, on Bactrian coins, and on Phœnician sculptures have not the peculiarity which distinguishes the Pictish symbols, and which consists in the *combination* of V and Z figures with the disks, sceptres, and serpents; and this peculiarity was not likely to originate in many independent sources. These symbols therefore must, until other evidence is produced, be regarded as originating with the Picts themselves, and not derived from some foreign influence; and as expressing, most probably, religious sentiments and superstitions peculiar to the Pictish people.

Notwithstanding, however, the fanciful character of not a few of Colonel Leslie's speculations, we cordially recommend his elaborate work to the careful study of anthropologists. Few books contain more varied and important information: it is a mine of learning for the subjects on which he treats; and some sixty beautiful plates give rich illustrations of all kinds of stone monuments and of ancient symbolical sculptures.

OUR GERMAN CONTEMPORARY.*

AFTER some little delay the two first parts of our new German contemporary have made their appearance. The first and second parts of the *Archiv für Anthropologie* have appeared together. We feel sure that this periodical will mark an epoch in the study of anthropology on the continent. This periodical will not have to struggle for its birth, but comes before the world with a sufficient guarantee that it will become a necessity to all real students of anthropological science. This will be sufficiently evident when we mention the fact that it is edited by Carl Ernst von Baer, St. Petersburg; E. Desor, Neuchâtel; A. Ecker, Freiburg; W. His, Basel; L. Lindenschmitt, Mainz; G. Lucae, Frankfort-on-the-Maine; M. L. Rüttimeyer, Basel; H. Schaafhausen, Bonn; C. Vogt, Geneva, and H. Welcker, Halle.

We should much like to see the whole of this important periodical translated and published in this country; but as we fear that this is not likely soon to take place, we shall feel it our duty to keep our readers informed of the chief contents of an admirable contemporary. On this occasion we must content ourselves with giving a translation of the introductory article, which is written by one of the acting editors, Professor Ecker.

"Despite that the country and the times we live in are abundantly blessed with scientific publications, we nevertheless unhesitatingly venture to send another periodical of this kind into the world.

"Although anthropology—in the sense we conceive it—is yet in its infancy, it has very recently and within a comparatively short period, both by the zealous investigations of men of science, and the interest excited among the educated classes, acquired such an extension, importance and position, as not merely entitle but force anthropology to step forth as an independent discipline, to define her boundaries, to be represented in literature, and not as hitherto humbly to claim shelter from other disciplines. In undertaking to satisfy these urgent demands by the foundation of this periodical, it may not be out of place to state what branches of science will be represented in its pages.

"The nature of man as the object of anthropology is, in the words of V. Baer, 'the culminating, or the starting point, according to the interpretation we give of various sciences, of zoology, comparative anatomy, universal history, philology, social science, and jurisprudence; it comprises psychology, as a whole, since we only know so much of the souls of animals and their thoughts as we by anthromorphism

* *Archiv für Anthropologie*. Edited by A. Ecker and L. Lindenschmitt. Braunschweig: 1866.

attribute to them; nay, philosophy as a whole, is merely the expression of the various modes by which man has endeavoured to comprehend the world.'

"But in a restricted sense there are two sharply demarcated departments into which the immense empire of the science of man may be divided. In the first, we consider man in social life, or humanity as a whole, and the effects resulting from this social condition. This constitutes the department of history, especially of the history of civilisation. In the second, man is considered as an individual, as the representative of the zoological genus 'man'. This is the natural history or zoology of man—anthropology in the present sense. But inasmuch as the zoology of animals comprises not merely the knowledge of external formation and internal structure, but also the theory of life, physical as well as mental, so the natural history of man comprises anatomy and physiology as well as psychology.

"It has—to give a short summary of its tasks—first to consider the variations within the human species, the various races and stocks of mankind, according to the external so-called zoological and anatomical characters, a branch of the science which may with V. Baer be appropriately termed *comparative anthropology*. It is clear that the whole anatomy of man, just as it is taught as a basis for medicine, must be subservient to the anthropologist; but hitherto it was only comparative craniology which yielded some notable results, to which may be added the theory of the proportions of the skeleton. The comparative anthropology of the brain, and of the soft parts generally, is yet in its infancy; and unfortunately the populations which might furnish in this respect the most important materials, namely, the lower races, disappear rapidly. But since the brain and the cranium which receives its shape from it, exhibit, according to many observations, the most striking differences in the various races, and are also most characteristic as compared with those of animals, comparative craniology justly constitutes one of the most important branches of comparative anthropology, quite apart from the circumstance that skulls afford frequently the chief evidence of extinct races and peoples.

"But comparative anthropology will not rest satisfied with the simple consideration of physical variations; it will also have to compare the functional capacity, the whole physical life. It will then have to ascend to the comparison of mental endowment, the intelligence of the respective races; and will have to investigate how far the structure of the brain harmonises with it, and this leads necessarily to the comparison of languages, manners, industry, and religion.

"This applies especially to comparative philology, which in recent times has acquired great importance, although we look upon it as an error that its results have, as regards certainty, been placed above the anatomical results. Surely the diversity in language, by the mediation of which notions are formed, and by which man becomes a man, rests as much upon congenital differences in the purely intellectual sphere (consequently also in the cerebral formation), as upon the special conformation of the articulating organs, and hence comparative philology partly rests upon an anatomical basis.

"Even then comparative anthropology cannot remain stationary; it will have to discuss the following questions: How did the variations in the human species arise? Are they the effects of various external influence, especially of the climate, or are they original? And in order to answer these questions, the influence of the media, of intermixture, etc., the causes of the disappearance of some races, their power of resistance, diseases, etc., will have to be investigated. These questions, as well as some others presently to be mentioned, are comprised in what at present in France is called *general anthropology*.

"On casting a rapid glance at the above outlines of the province of comparative anthropology, it cannot be denied that it pretty nearly covers the same ground as 'ethnography' or 'ethnology'; but were we obliged to give an opinion on the unrefreshing contest which lately took place between the ethnological and anthropological societies of London, we certainly should hold that 'ethnography' is a part of 'anthropology', but not the latter a part of the former; and that considering the uncertain and oscillating signification of 'ethnology', it were best to substitute for it 'comparative anthropology'.

"There is a second main problem of anthropology, namely, the investigation of the differences subsisting between man and the animals standing next to him, the so-called anthropoids; or 'man's place in nature,' as the question has lately been formulated. This problem will have to be solved partly by the anatomist, and partly by the psychologist. On the one hand, there will be requisite the most careful comparative anatomy of the body, especially the minute structure of the brain, and, on the other hand, the analysis of psychological functions. However much may have been done in this direction, much more remains to be done before we can indulge in any hopes to solve these final questions in relation to the genetic connection between man and the anthropoid animals, which have by the followers of Darwin been proposed too early. Whether palæontology and the theory of development will throw some light into this obscurity remains yet to be seen. But surely it is not the task of a serious science prematurely to discuss questions to answer which we lack materials, for we gain according to a well known just maxim, 'by no means the truth, in deciding doubts at the improper time.'

"But natural history is not merely the description of nature; it is as its name implies, history; it embraces not merely the developed but development. Just as the natural history of animals, zoology describes not merely the living but extinct animals and considers their appearance and disappearance on the globe, so the zoology of man is at the same time palæontology (palæanthropology) having for its aim the investigation of man's first appearance upon the earth. It thus on the one hand becomes intimately connected with geology, which is an indispensable auxiliary science, and on the other hand with archæology and history. Here the geologist and the palæontologist and the archæologist meet, the latter descends into the most ancient graves of our ancestors, whilst the former explores such formations which contain the first traces of man by the side of the relics of extinct animals.

The *history* of man runs with its terminal points into the *natural history* of man, into paleanthropology. The problem common to both is to construct from the most ancient remains of man, his chase and domestic animals, and the fragments of his primitive industry, his prehistoric or primæval history. But also into the province of written history must anthropology extend its researches; for if for instance it be our wish to investigate the genetic connection of the present inhabitants of Europe with its primitive population it is only possible, by advancing from the examination of the skeleton, and especially of the skull of the former as found in the graves of all centuries, until we arrive at the relics of the latter. All this portion of the field of inquiry has since R. Wagner been denominated *historical anthropology*. It is this branch which forms a connecting link between the two grand disciplines into which the science of man is divided,—*history* and *natural history*.

“Hitherto the various labours in the above-mentioned fields of inquiry have been carried on independently of each other. Thus archaeologists looked upon skulls as worthless, and much that is valuable has consequently been lost for science. The altered spirit of the times has led to great improvement in this respect. The individual departments of science are no longer so exclusive, they begin to throw their lights upon other apparently foreign fields, and become allies in the solution of certain questions. . . . This principle of association has already produced its fruit upon the soil of science. Questions arose for the solution of which the co-operation of other discipline was requisite. Thus as regards the varieties of the human species it became necessary apart from physical qualities to study also the resemblance or diversity of language and an unexpected relation was thus established between the naturalist and the philologist. The thirst for knowledge imbued with a spirit of free inquiry gradually established links of connection between apparently broadly demarcated sciences, and thus became enlarged that field of knowledge, which we now denominate the natural and primæval history of man, or expressed in one word *anthropology*.

“In all countries where science progresses the necessity of association was felt, and effect given to it according to the political and national peculiarities of the respective states. In the great metropolis of the centralisation state, where by far the greatest number of the scientific men of the country are crowded together within a comparatively small space, this state of development manifests itself first. A number of scholars formed an association—the *Société d'Anthropologie*, which consisted of the representatives of the above-mentioned branches of science constituting anthropology, for the purpose of discussing questions which could not satisfactorily be answered by the discipline. In this society, and the periodicals issued by it, the various labours found a common centre, and in their pages will be found what has been effected in France in the field of anthropology. Soon after a similar society was formed in London, and very recently, we understand, also in Madrid. To create such a central union in Germany in a similar form, our political condition, apart from other reasons, will not admit of. Such an association, which we have no

doubt will be formed, can only appear in the shape of a migratory association, as a section of the association of naturalists. But such a society has not the power to perform what an independent society can effect, and hence another point of union must be established. It is unquestionable that the individual disciplines which, by their union, constitute anthropology, can no longer claim admittance as guests in the exclusively medical, anatomical, archæological, and scientific journals, in which they are scarcely tolerated, or find too little shelter to live and to thrive. On the other hand, we cannot expect from the public, who daily take a greater interest in anthropology, that they should read the various publications in which the facts of anthropology lie scattered. It has, therefore, long been a great desideratum to establish a central organ for anthropology. At the meeting of anthropologists in 1861 at Goettingen, the plan to found such an organ was discussed, but no effect given to it on account of various obstacles until the necessity for it became too urgent to delay it any longer. The above-mentioned editors met at Frankfurt on the 7th of June, 1865,* for the purpose of establishing these Archives, which have for their object to become a central organ for anthropological efforts in Germany and allied countries. The Archives will contain, besides original treatises, reports of the more important papers of foreign societies, translations, and, as far as possible, a complete literary register. Since these Archives have partly for their object to supply the want of a society, minor communications from correspondents will readily find insertion, in order to establish a means of intercommunication between the fellow-labourers in our science. With respect to certain questions, such as methods of measurement and modes of investigation, it is highly desirable to interchange ideas and to come to an understanding. The Archives, finally, although a periodical for professional anthropologists, anatomists, zoologists, archæologists, and philosophers, is at the same time intended for the educated public. On the other hand, it will contain the most important labours in the whole field of anthropology, and its progress, whilst, on the other hand, it will spread the results of these labours in wider circles. But whilst the Archives are intended to fulfil this task, they will enter into no rivalry with the numerous popular publications which make everything pleasant for the public, without providing it, at the same time, with the means of judging. V. Baer says very justly in his excellent autobiography, 'Science, it is said, must be rendered popular. Very well. I have always inclined to this opinion; but now, as the work is proceeding, and the fruits of the discoveries are ground down in innumerable mills, these appear to me to resemble bone-mills in which the relics of living organisms are transformed into a shapeless powder in order to manure the field and procure nourishment for the people. The object is certainly a good one, nevertheless it cannot be denied that

* Excepting V. Baer and Rüttimeyer. The former on account of indisposition; but both approved of our undertaking, and have promised to us their support and co-operation.

in this process some untrue, consequently, unwholesome, matter is mixed with the powder, which is no longer recognisable since all the evidence of its origin is lost.' This is the object of the Archives ; may they succeed in fulfilling it."

WILSON'S PRE-HISTORIC MAN.*

THE first edition of this work was published in 1863 ; and acting on the rule which a known and certain zoological law has laid down—that a great longevity is oftentimes granted to animals of a slow circulation—the year 1866 witnesses a fresh edition.

Let us examine how far the second differs from the first. The author acknowledges that in his first edition "Some errors beyond the reach of errata also resulted from the want of proof sheets. But of these it is only necessary to notice here the woodcut, fig. 58, p. 446, which was introduced with the title of one now correctly given on p. 449, as an example of the normal Peruvian dolichocephalic skull." Charles II is said to have said to a lady of the court whose dress was somewhat dilapidated, "that a rent is better than a darn ; a rent is the accident of a minute, but a darn is premeditated and deliberate poverty." Dr. Wilson's darned craniology is certainly worse than his former slips. The reviewer of his work in these pages (vol. i, p. 139) pointed out that he gave a figure which he considered to be that of a well proportioned symmetrical skull, unaltered by any artificial appliances. This skull was undoubtedly artificially distorted ; as any one but Dr. Wilson might see. He not only repeats the blunder in the present edition ; but actually makes it worse, by altering the title of a Peruvian dolichocephalic skull, supposed by him to be naturally dolichocephalic, to that of a "depressed skull." If he had stopped here, we might have considered it a harmless error, in which the feeble mind of the writer was seen struggling vaguely to extricate himself from the blunder which he had committed, without precisely knowing where the blunder was. A critic might at least have given him credit for good intentions. Yet he has actually introduced a new artificially compressed skull (his woodcut 59 on p. 449) which he calls a "Peruvian dolichocephalic skull." This skull is just as much artificially compressed as the other one ; and in spite of the enormous parade of facts

* *Prehistoric Man; Researches into the Origin of Civilisation in the Old and the New World.* By Daniel Wilson, LL.D. Second Edition.

which Mr. Wilson adduces, the homely comparison is applicable to him that he has gone "out of the frying-pan into the fire."

The scope of the work professes to deal with "pre-historic man", yet the majority of instances are invariably taken from America. If there were really evidences of man in the American geological period; if the Natchez man and the New Orleans man had been actually pre-historic individuals; if the proofs on which Lund surmised that early man in Brazil inhabited the bone caves of that country with the extinct animals, were before us; we might then with some show of plausibility demand for pre-historic man in America an amount of attention equal to that which is bestowed on our ancient human remains in the Old World. But we have really no positive evidence before us of fossil man in the New World. And when we travel towards the present era, less and less grounds are afforded to us whereon to assert even the antiquity of American "pre-historic" civilisation. Mexico, Peru, and the buried cities of Central America, have, it is true, afforded us evidence of a high civilisation prior to the advent of the Spanish conquerors. But the proof of the time during which this civilisation prevailed is always lacking. The generations of kings, on whom so many imaginary genealogies have been founded, are as untrustworthy evidence of historical fact as the genealogies of the Welsh or the Siamese. We fear that at present the question of pre-historic man in America must rest in abeyance until some one gifted with the critical historical faculty—some future Niebuhr—arises; and then it is possible that science may be evolved out of the chaos which now exists. If the physical evidence of the descent of the present American aborigines from a stock distinct from those of the Old World is investigated, the following is the first broad result. A Peruvian skull resembles a Mexican skull; a Mexican skull resembles a Californian skull; a Californian resembles a British Columbian; many British Columbians resemble Esquimaux (of the west coast); and from the Esquimaux of Behring's Straits to the Tschuktschi and Koriaks, the transition is easy. We are then plunged into the so-called "Mongolian" races, at the extreme north-eastern corner of Asia. Although the above *sortes* is roughly sketched, we may challenge the most detailed reference to craniometry before it can be disproved. The philological evidence is, however, of course apart; this in the hands of Dr. Wilson, is as nothing. We have to congratulate him on being the author of a large work which has run through two editions, and succeeded in teaching nothing of importance with regard to its subject. As the work stands before us, it comprises more than 600 pages, which might with great advantage to the author's reputation, and his readers' patience, have been compressed into 100. We can

but quote the last sentence. After doing nothing of real work himself to solve the difficulty of pre-historic man, the "*Deus ex machina*" is as usual invoked to pick him out of the mud; and he concludes: "I venture to hope that the process of investigation and reasoning here pursued may unravel some perplexities, and show such an approximation to a beginning in relation to man's intellectual progress, as to confirm the anticipation that ampler knowledge will bring with it fresh evidence of harmony between the disclosures of science and the dictates of revelation."

THE KHONDS OF ORISSA.*

MAJOR MACPHERSON'S life, written by his brother, Mr. William Macpherson, is a record of the highest interest as including the private life of a man of great ability and force of character, the history of his important political work in India, and the account of his well-directed efforts to raise in the scale of civilisation the hill tribes of Orissa. For the objects of this Journal, however, Major Macpherson's descriptions of the bodily make, mental character, history, life, and habits of these Orissa Khonds are the main subjects of interest, and we shall confine ourselves to describing the leading details of his anthropological dissertations, which rank among the fullest and most remarkable contributions ever made to the history of savage life.

The Khonds, who were among the primitive races of Orissa, were driven by the Hindus to the forest and the hill, and now inhabit the hilly country and table lands of the Ghauts, the Khond district comprising about five hundred square miles. The extreme unhealthiness of their malarious climate, the poisonous effect of which extends even to unseasoned Hindus, and is simply deadly to Europeans, except for a few weeks in the year, has had the effect of keeping the Khond civilisation, though within a short journey of the Hindu civilisation of the plains, in an isolated state; and it has thus, to a very remarkable degree, retained those original characteristics which, under circumstances more favourable to intercourse and admixture with surrounding races would no doubt have disappeared.

"The Khonds are fitted by physical constitution to undergo the severest exertions and to endure every form of privation. Their

* *Memorials of Service in India.* From the Correspondence of the late Major Samuel Charters Macpherson, C.B. Edited by his brother, William Macpherson. London: John Murray. 1865.

height is of about the average standard of Hindus of the Peninsula. Their forms are characterised by strength and symmetry. The muscles of the limbs and body are clean and boldly developed. The skin is clear and glossy, its colour ranging from a light bamboo to a deep copper shade. The heel is in a line with the back of the leg, the foot is somewhat larger than that of the Hindu, and the instep not highly arched, although the Khond, nevertheless, has extraordinary speed of foot. The forehead is full and expanded. The cheek bones are high and rather prominent; the nose is seldom, though occasionally, arched, and is generally broad at the point; the lips are full, but not thick; the mouth is rather large. The whole physiognomy is generally indicative of intelligence and determination, blended with good humour."

The Khond villages are beautifully situated, and often consist of one slightly curved street with a gate at either end. The pursuit of agriculture is held in great honour, and practised with a degree of skill and energy perhaps nowhere surpassed in India; and the mountain Khonds are extremely rich in bullocks, buffaloes, goats, swine, and poultry. The other necessary arts of life are performed for them by pariah or Hindu families settled among them, who may be divided according to their trades into the panwa, or weaver (who also provides the human victims); the lohara, or ironsmith; the komaroo, or potter; the gouro, or herdsman; and the soondi, or distiller. These they treat with kindness, but consider as an inferior race. Hospitality is regarded as one of the chief virtues, and fugitives are received and protected—with the exception of the muriah, or victim, who must be given up. If a man can make his way into the house of his enemy, even if his life has been forfeited, he cannot be touched.

Marriage can take place only between members of different tribes, and a state of war or peace makes little difference. After a fight, the women of each tribe visit each other, and condole on the loss of their relatives. The custom among the Khonds is for boys of ten or twelve to marry girls of fifteen or sixteen. The use of money being almost unknown, the father of the bridegroom pays to the father of the bride twenty or thirty lives, a life being either a buffalo, pig, goat, sack of grain, or set of brass pots, as may have been agreed upon beforehand, and then the marriage is at once solemnised. The father and friends of the boy carry rice and liquor in procession to the house of the bride, the priest makes a libation to the gods, the parents of the parties join hands, and then all partake of the prepared cheer. Afterwards an entertainment takes place either at the bride's home or some convenient place near the house of the bridegroom, with feasting, dance, and song. When the night is far spent, the uncles of the bride and bridegroom raise them on their shoulders, and, join-

ing in the dance, the burdens are suddenly exchanged, and the uncle of the youth disappears with the bride. Then the company divides into two parties, the friends of the bride endeavouring to arrest the others, to cover her flight, and all—men, women, and children—join in the mock fight. The priest attends the newly-married couple home, rehearsing a charm whenever they cross a brook. If the husband is a boy, they live together in his father's house, the wife aiding his mother in her domestic labours till he is old enough to have a house of his own. When a child is born, they determine the best name for it by the priest dropping grains of rice into a cup of water, naming with each grain a deceased ancestor. From the movements of the grain and observations on the child, he determines which of his ancestors have reappeared in him, and names him accordingly.

On the death of the patriarch of a district, gongs and drums are beaten, the body is placed on a funeral pile which is set on fire, while the family and people of the hamlet perform a dance round a high flag-staff set up close by, and surrounded with the personal effects, clothes, arms, drinking vessels, etc., of the deceased chief. The dance is continued at intervals until the tenth day, the property is distributed among the different abbuyas or chief people in the tribes, and an assembly is held to acknowledge the heir of the late patriarch.

The religious system of the Khonds is described at great length, as it was with practices arising out of it, that Major Macpherson was chiefly concerned—the putting down of human sacrifice, and of female infanticide. They believe in one Supreme Being, Boora Pennu, or the God of light, the source of good, creator of the universe, of the inferior gods, and of man. Boora Pennu in the beginning created for himself a consort, Tari Pennu, or the earth goddess, who, jealous of the creation of man, rebelled against him, and became the source of evil. Up to this point the Khonds hold the same general belief, but from it they divide into two sects: that of Boora, believing that he was triumphant in the contest; that of Tari, holding that she remained unconquered, and still maintains the struggle. The sect of Tari-Pennu are those who offer human sacrifices; the sect of Boora-Pennu practise female infanticide. The Khonds believe that men are endowed with four souls: first, one that may return to Boora after death; second, one that belongs to some tribe, and is reborn in it; third, one that endures the suffering for the punishment of sin, performs transmigrations, and sometimes temporarily leaves the body, leaving it weakened, languid, and sleepy—this is the soul which, if a man becomes a tiger, animates the

bestial form; the fourth soul dies on the dissolution of the body. Among the inferior gods is Dinga Pennu, the judge of the dead. He resides in a great rock, or mountain, called the Leaping Rock, perfectly smooth and exceedingly slippery, with a bleak unfathomable river flowing round it. To it the souls of men speed straight after death, and have to make desperate leaps to secure a footing on its surface; failing to do this, they break limbs or knock out eyes, and these deformities are generally communicated to the next bodies they animate. Meantime Dinga sits upon the rock, casting up each man's account of good or evil, and awarding their sentences.

The worshippers of Boora-Pennu, while holding in abhorrence the practice of human sacrifice, carry that of female infanticide so far that in a village of a hundred houses there is often no female child to be seen. This practice seems partly attributable to the difficulties that arise from the custom of marriage only taking place between different tribes. The influence and privileges of women are very great among the Khonds, and many difficulties and quarrels are caused by the marriage arrangements; and by the death of the female infants, say the Khonds, "the lives of men without number are saved, and we live in comparative peace." They believe that they have the sanction of the gods for their practice, killing female infants, Boora having repented of the creation of the first feminine being, and given them permission to bring up only as many females as they should find consistent with the good of society. They hold, also, that the more female souls they remove from the earth, the more chance there is of getting new male souls in their place.

In the worship paid to Tari-Pennu, the earth goddess, the chief rite is human sacrifice. Such sacrifices are celebrated publicly at fixed periods, and are so timed that each head of a family can have a share of flesh for his fields about the time when his chief crop is laid down. Besides these regular festivals, they offer extra sacrifices on special occasions, if the crops should threaten to fail, or many deaths occur from disease or tigers, etc. In case of family misfortunes a private sacrifice is made. The victims, or meriahs, who are almost always procured from other tribes, may be of any race or age, and of either sex, but they are only acceptable to Tari if they have been purchased by the Khonds, or are born victims, that is, are the children of victim fathers, or have been devoted to the gods by their parents. They are generally supplied to the Khonds by the races of Panwas and Gahingas, who either purchase or kidnap them in the low lands, and bring them blindfolded to the village, where they are lodged in the house of the mullicko, or chief. The meriah, or victim, is regarded through life as a consecrated being, and if a child is often

permitted to attain to years of maturity, has a wife given to him, and brings up a family of victim children, who, though liable to be sacrificed at any time, sometimes escape their fate. The victims are treated with great affection and deference, and are considered as superior beings, whose privilege it is to give up their lives for the good of mankind, and who will be beatified immediately after death.¹

"The celebration of the sacrifice is held as a public festival, which lasts about three days, and is attended by a large concourse of people. After many preliminary observances, prayers to Tari, processions, music, dancing, and feasting, the victim, who is bound to a post in the sacred meriah grove, is on the third morning refreshed with a little milk and palm sago, and released from his bonds, though closely watched, and generally stupified with opium. A series of invocations, legends, and dialogues are then gone through, the parts of the victim, the chief, and the priest being sustained in a semi-dramatic way by the best actors to be found. After an invocation to Tari-Pennu, and an account of the institution of human sacrifice, the priest thus continues: 'We obeyed the goddess, and assembled the people. Then the victim child wept, and reviled, and uttered curses. All the people rejoiced except those with whom the child had dwelt, and the janni (priest). They were overwhelmed with grief.' . . . The earth-goddess came again and said, 'Away with this grief. Your answer is this: when the victim shall weep, say to him, Blame not us, blame your parents who sold you. What fault is ours? The earth-goddess demands a sacrifice. It is necessary to the world. The tiger begins to rage, the snake to poison, fevers and every pain afflict the people—shall you alone be exempt from evil? When you shall have given repose to the world, you will become a god by the will of the gods.' Then the victim answers: 'Have you no enemies, no vile and useless child, no debtor to another tribe who compels you for his debts to sell your lands: no coward, who in time of battle skulks with another tribe? Have you none of these to seek out and sacrifice?' The Janni replies: 'We have acted upon quite different views. We did not kidnap you on the road, nor while gathering sticks in the jungle, nor when at play. The souls of those whom you would have us sacrifice can never become gods. They are only fit to perish by epilepsy, falling in the fire, or by ulcers, or other dread diseases. Such sacrifices would be of no avail. To obtain you we cleared the hill and the jungle, fearless of the tiger and the snake. We stinted ourselves to fill your parents, and gave them our brass vessels; and they gave you to us as freely as one gives light from a fire! Blame them! Blame them!'

"Then the Victim protests: 'And did I share the price which my parents received? Did I agree to the sale? . . . You, O my father, and you,—and you,—and you,—O my fathers! do not destroy me!'

"The mullicko, or chief of the village where the victim was kept, now says: 'This usage is delivered down to us from the first people of the first time. They practised it. The people of the middle time omitted it. The earth became soft. An order re-established the rite.

O child! we must destroy you. Forgive us. You will become a god!

"The Victim: 'Of this your intention I know nothing; I thought I was to pass my life with you. I assisted to build houses, and to clear fields for my children. See! there are the palm-trees I planted, there is the nohwa-tree I planted—there is the public building on which I laboured—its palings still white in your sight. . . . Let the whole burden of my soul's grief, as I remember the past, lie upon you.'

"The Chief: 'You are about to become a god. We shall profit by your fate. We cannot argue with you. . . . Do you not recollect the day on which we cut your hair, devoting you to sacrifice? and do you not recollect that when many were sick, and the janni brought the divining sickle, he declared, "The earth demands a victim"?'"

"The Victim: 'It is true I did observe something of this; but your aged mothers, your wives, and your beautiful children, my brothers and sisters, assured me that you were humane, and would never kill one so useful and beautiful as I.' . . .

"The Chief: 'Your parents, forgetting your beauty, forgetting the pleasure of cherishing you, turned their hearts to my cattle, and my brass vessels, and gave you away. Upbraid them! Heap imprecations upon them. We will curse them with you, imprecating upon them—that all their children may be similarly sacrificed—that they may lose, within the year, the price for which they sold you—that they may have a miserable and forlorn old age, lingering childless and unfed—that when they die in their empty house, there may be no one to inform the village for ten days, so that, when they are carried out to be burned, all shall hold their nostrils—that their own souls may afterwards animate victims given to hard-hearted men, who will not even answer their death-plaints consolingly. Curse them thus, and we will curse them with you.' . . .

"The Victim: 'My curse be upon the man who, while he did not share in my price, is first at my death. Let the world be ever upon one side while he is on the other. . . . I call upon all—upon those who bought me, on those whose food I have eaten, on those who are strangers here, on all who will now share my flesh—let all curse the Janni to the gods!' . . .

"The Janni: 'Dying creature, do you contend with me? I shall not allow you a place among the gods.'

"The Victim: 'In dying, I shall become a god; then will you know whom you serve. Now do your will on me.'

"The victim is then sacrificed, and his flesh stripped off and divided into portions for the different villages, which are carried home wrapped in the leaves of the googlut-tree. Arrived at the village, the portion is divided in two, and one half buried in the ground; the rest is divided between the heads of houses, each of whom takes his morsel and buries it in his fields, placing it in the earth behind his back without looking."

Such is the outline of the rite of human sacrifice among the Khonds.

By steady perseverance in his purpose, Major Macpherson was at length able to put a stop to both human sacrifice and female infanticide; though the difficulties of the attempt were much increased by the want of proper support from the Indian government. Whether they are still discontinued, or whether after his departure the Khonds went back to their old habits, we are unable to say. For fuller accounts of this remarkable race, we must refer to the book itself. This slight sketch will at least serve to show the immense value of the contribution which Macpherson made to the History of Man by the investigations which he carried on with such perseverance and energy, and for which he had to pay so dearly in bodily suffering and in official ill-treatment.

ROMAN INTERCOURSE WITH IRELAND.

IN the May number of this *Review*, we published a short article on Roman Intercourse with Ireland, in allusion to a paper read by Mr. Thomas Wright before the British Association at Birmingham in 1865. Mr. Wright has since honoured our short remarks by a special paper, which he read before the Ethnological Society. It, therefore, now becomes our duty to offer a few observations in reply to this communication.

The historical instances of the Roman arms penetrating without conquering a country, are so very few and far between, that we have erred in considering Mr. Wright meant that the Romans had subjugated Ireland, and established themselves in that country. This, it now appears from his late paper, was very far from his thoughts. Though he still holds that it "can hardly be doubted that the Romans did invade, and, in their view of the case, subdue Ireland." Now, in our opinion, the Romans used to take a very practical view of such cases. We would be very sorry to descend to any mere word-quibbling on this important historical question, nor can we suppose that the Romans made much distinction between the words subdue and subjugate. Though Livy tells us that the words *Væ victis* were first used by Brennus, the Gaul, when he threatened extermination to the Roman people, the latter very soon acquired them, and used them whenever they wished to express the particular relations existing between a conquering and a subdued people, "in their view of the case."

To acquire accurate ideas of ancient knowledge, we must in all cases throw aside our own altogether, and we must try to think as

they thought, with the little knowledge they possessed ; we must drop a veil over our eyes, and endeavour to look upon matters exactly as they saw them with their own lights. Strabo was the most distinguished geographer of antiquity ; he was just dead when Juvenal wrote, and there can be little doubt that his geography had been consulted by the poet. But, as has been well observed by Casaubon, Strabo's geography of Great Britain and Ireland is inaccurate, inconsistent, and self-contradictory. Among other errors, he actually states that Ireland is situated due north of Britain. Tacitus, however, lived in Juvenal's time, and it is from his writings that the satirist has obtained the principal part of the geographical knowledge of our country which he displays. We are again forced to re-quote his often quoted words.

" Arma quidem ultra
Littora Juvernæ promovimus, et modo captas
Orcadas, ac minima contentos nocte Britannos."

From the above, we clearly see that the Romans had carried their arms over or beyond the shores of Ireland, not into the interior of Ireland, for then one shore would have sufficed, and we would have had the singular *littus* ; but Juvenal, to render his meaning plainer to us, has actually used the plural *littora*. And, as Tacitus informs us that the Roman fleet had sailed round the north of Scotland, captured the Orkneys, and seen Thule, we think Juvenal was quite correct in saying that they had carried their arms beyond Ireland. But observe, however, though he applies the word *captas* to *Orcadas*, he very properly abstains from applying such an expression to Ireland. Indeed, we consider and quote the words of Juvenal as a distinct proof that the Romans neither subdued nor subjugated, whatever the difference may be between the meaning of the two words, any part of Ireland.

Let us, however, take the exact words of Tacitus ; he says :—

" Hanc oram novissimi maris tunc primum Romana classis circumvecta, insulam esse Britanniam affirmavit, ac simul incognitas ad id tempus insulas, quas Orcadas vocant, invenit domuitque. Dispecta est et Thule quadamtenus nix et hyems appetebat."

Now we shall not enter into the ancient dispute as to where Thule really was. The ancient poets had heard of it, and made their own use of the place to adorn their verses, and unwittingly to puzzle modern commentators. Pliny's description of Thule, curiously enough, tallies with both Tacitus and Juvenal. Pliny says, the most remote of all the islands is Thule, which is six days sail from the north of Britain, in which there is no night at the summer solstice, while the sun is passing through the sign of Cancer. Here we have the *minima contentos nocte Britannos*, or at least the allusion upon which Juvenal wrote

the phrase. Tacitus says that Thule laid concealed in the gloom of winter and the depth of eternal snows; while Pliny says, it is but one day's sail from the Frozen Ocean. Those descriptions point most unmistakably to Iceland; and when the Roman fleet was in sight of that island, they had certainly carried their arms far beyond the shores of Ireland.

As regards the argument about Roman roads, we do not think it worthy of the slightest notice. The roads led to Legontium, from whence the Romans took shipping for Man or Anglesea, in both of which places they had mines. No doubt there was an important station at Holyhead; from the summit of the mountain the watchers could see an immense distance, northward, southward, and westward. From thence might the Irish pirates first be descried, making either for the Dee or the Severn; and by a telegraphic arrangement of beacons, or otherwise, notices of danger might be at once conveyed to Deva or Sabrinam.

There is no comparison whatever between Cæsar's short stay in England, and a Roman settlement in Ireland, lasting "during the whole period of the Roman power in Britain." The two cases are utterly dissimilar. But there is still a place on the Thames, named Cowey Stakes, and there are nothing but a few Roman coins found in Ireland. That Julius Cæsar twice invaded Britain is a well known historical fact. Stakes, to aid or impede his crossing over the river Thames, do not enter into the category of forts, roads, or earthworks, but still they mark the presence of Cæsar and his legions. We have read newspaper accounts of some of the stakes having existed as late as the last century; and we have a tobacco-stopper said to have been made out of a piece of one of them. We may be excused for reminding Mr. Wright that they were seen and described by the Venerable Bede in the following words.

"Quarum vestigia sudium ibidem usque hodie visuntur, et videtur inspectantibus quod singulæ earum admodum humani femoris grossæ et circumfusæ plumbo immobiliter hæreant in profundum fluminis infixæ."

So we find it written by Bede, in the first book of his *Ecclesiastical History*. The story is merely traditional; still, however, existing among the boatmen on the banks of the river, still talked of even in the very public-houses about Laleham and Chertsey; the spot is still named Cowey Stakes, nevertheless the tradition has the very respectable authority of Bede, who died in the eighth century, not so very long after Cæsar had crossed the river.

The Roman medicine stamp was found in the county of Tipperary. The wandering vendor of medicines might have stamped his collyrium

as he made it in the wilds of Ireland. And he cannot be accused of bad judgment when he carried medicines to cure hurts of the eyes to the county of Tipperary.

With respect to the Roman coins found in Ireland, we are indeed greatly surprised to find an eminent archæologist like Mr. Wright speaking of an urn containing 1,937 coins, together with 341 ounces of silver, composed of a large number of weighty ingots and ornamental pieces, supposed to have been used on armour for horses, and several battle axes marked with Roman characters. A more detailed and accurate account of this discovery is given in the *Ulster Journal of Archæology*, the true number of the coins being 1506. We really wish Mr. Wright had read this more detailed and accurate account, though we thank him for introducing us to an exceedingly interesting and valuable work. The account appears to have been written by the Rev. John Scot Porter, an eminent antiquary in the north of Ireland, and the coins have been described by Mr. Carruthers, an equally eminent numismatist. Of course there was no urn; the "discovery" was found below the surface, in the centre of an open field, and from the closeness in which the coins and silver were packed together, it was probable that they had been placed in a bag or box, which in the course of time had completely disappeared. There was nothing that the most inexperienced eye could possibly imagine to "have been used on armour for horses," or for battle axes. There were no other metal but silver amongst the "find." The coins were all small, scarcely any being so large as a modern sixpence; they were not in a perfect state of preservation, being nearly all clipped, defaced, and otherwise injured. Mr. Wright tells us accurately, that they were all of the lower empire, the list beginning with Constantius II, and ending with Constantine III; and yet Mr. Wright attempts to bolster up his erroneous reading of a short passage in Juvenal, by coins that had not been struck till long after the Roman poet had departed for the gloomy regions of Hades. Here is what Mr. J. S. Porter says of this "find:"—

"There was not a coin, or article of gold or bronze, nor a specimen of jewellery in the whole collection. This fact may assist in determining the purpose for which the whole had been gathered together. It was not a merchant's money-box, nor the hoard of a miser, nor the booty of a robber, nor the spoils of a warrior, nor the treasury of a monastery; in any of those cases the hoard would, almost beyond a doubt, have contained some gold or brass, or both, and, beyond a doubt, some article of plate in a perfect state; whereas it does not contain (with the exception of a portion of the coins) one unmutilated piece of wrought silver; all are bent, broken, and for every useful purpose destroyed; and nine-tenths of the whole consist of lumps, or

rude castings, which, at the time they were made, could have had no value at all, except the intrinsic worth of the metal. The only use to which such a heap could be applied would be as *old silver*, intended to supply material to a silversmith for the exercise of his art. I have little doubt that the hoard had been originally collected for this use; how or why it came to be buried in the earth it is impossible now to say with certainty. It may have been deposited there by its owner for safety in troublesome times, or it may have been stolen from him and buried by the robber for the purpose of concealment. But however it came there, its contents prove to my mind convincingly that *the art of manufacturing silver was practised, and perhaps extensively practised, in Ireland, at the time of its inhumation.*"

With respect to a Roman interment, with a Roman coin, having been found in the townland of Loughy, near Donaghadee, county of Down, we shall just quote a passage from the *Ulster Journal of Archaeology*, written by Mr. William Pinkerton, and published in vol. v, p. 36:

"That many of the Romano-British visited Ireland is more than simply probable; that some remained and died in this island is equally so; but the few scattered Romans who may have died in Ireland were strangers in a strange land, and we cannot expect to find in this country (Ireland) the distinctive Roman sepulchre, authenticated by the many well-known proofs afforded by the manufactures and peculiar burial customs of that people. This brings me back to my starting-point, the communication of Mr. Carruthers, and I regret to say, with all due deference to that gentleman, that, though I agree with him to a certain extent, I cannot go all the way with him. I can see no improbability whatever in the assumption that a Roman 'had been voyaging past the County Down, and had died either unexpectedly on board or in a fit of illness, after having been removed on shore.' But the very act of bringing the body on shore, either alive or dead, under the above conditions, would imply that the deceased was a person of rank or distinction; and it is well known that in such cases it was the Roman custom to burn the body on the nearest convenient spot, and to carry away the ashes to be interred with the usual ceremonies and accompaniments elsewhere in Italy, Gaul, or Britain, near the remains of the deceased's kindred. Besides, there was nothing distinctively Roman in the remains found near Donaghadee—nothing but what has been found in Celtic as well as Saxon sepulchres. In short, though a Roman might have been buried at the place, and in the manner alleged, there is no evidence whatever to support such an assumption—one, in my opinion, too lightly hazarded."

Mr. Wright also alludes to Roman coins having been found in a Roman cemetery near Bray, in the county of Wicklow. Though we have resided at Bray, we are totally ignorant of the circumstance, and a reference to the *Proceedings of the Royal Irish Academy*, vol. iii,

p. 186, as quoted by Mr. Wright, does not, in the slightest degree, inform us on the subject.

Mr. Wright, in the conclusion of his paper, draws from those few coins the following startling inference. He says that "the coins themselves show that this settlement of the Romans in the north-east of Ireland, of whatever character it may have been, lasted during the whole period of the Roman power in Britain." The settlement is quite gratuitous, but we shall let the word pass; the remains, then, of the Romans in Ireland are but a few coins that may have been carried thither by any one, while one would imagine that the Romans in Britain amused themselves by scattering their coins broadcast over the land. It is not twenty years since we visited Gari-ononum in Suffolk, and we picked up a handful of coins when walking over the ground enclosed by the ancient walls, and the field at the time was full of persons gleaning wheat and gathering coins.

In conclusion, we may express our regret at being engaged in a discussion with Mr. Wright on Roman antiquities in these islands. He, of all men, who has been our mentor and our teacher upon archaeological matters, who knows as much, and has probably done as much to elucidate and make popular our Roman antiquities as any man in England. It is a very great pity that he has not devoted his extraordinary talents to the new fields of scientific inquiry, before he so boldly stated his opinions on bronze and iron weapons. At Haalstatt in Austria, one thousand tombs of the ancient miners of salt, have lately been opened by M. Ramsaner, the director of the mines. They, unmistakeably, show a date previous to that of Philip II, King of Macedon, father of Alexander the Great. They may and do date from the tenth to the fourth century before the Christian era, a transitional period, when bronze tools and urns were slowly dying out before the use of iron. The arms of iron found at Hallstatt are actually copied from their predecessors in bronze, and there the short, sharp, two-edged, leaf-shaped sword first appears in an iron form. Bronze paalstabs faced with iron edges have been found, and, generally speaking, there are more iron than bronze celts in the collection rescued from their burial of centuries. Daily, hourly, we may say, discoveries of the greatest value are being made on the continent of Europe. Do what we may, we cannot close our eyes to the vast vistas of antiquity opening to us on almost every side. Let us follow the paths thus exposed to our view, with sure and steady steps; to us is left the honour of exploring them, and let us do our work well and worthy of the great cause in which we are engaged.

PROCEEDINGS OF THE PARIS ANTHROPOLOGICAL
SOCIETY.*

M. BONTÉ after referring to what he had stated at a previous meeting, namely that he considered the Celts to have been a brown, and the Kimris a light coloured race, would confine himself for the present to replying to certain assertions made in the course of the debate. And first he considered the pretended brachycephaly of the so-called pre-Celtic race as unproved. He would admit they were a brown race, as everything indicates their having been of the Iberian stock, but nothing shews that they have been exclusively brachycephalic, there being no proof that the Iberians were exclusively brachycephalic. . . . Neither must we because Dr. Thurnam found in England brachycephalic crania in monuments of the bronze-age apply his discovery to Gaul. He had never put much faith in absolute propositions in systems in fact, hence he had already, before M. Broca communicated to the society the discovery of Dr. Thurnam, regarded the conclusions of M. Retzius and his disciples as very hypothetical. He would now come to another point. The partisans of the Aryanism of the modern French have attributed to the Aryan race a numerical preponderance over the pre-Celtic race. There is no record in history of a conquering race having exceeded in number the natives of any country. Even the army of Xerxes, the most formidable in number, exaggerated no doubt by ancient historians, was still inferior to the European, Asiatic and insular population of Greece. It was said at the last meeting that the Aryans had exterminated the indigenous race of Gaul. W. Edwards had already observed that such cases of extermination were unexampled, inasmuch as the conqueror generally prefers to make slaves of the vanquished. It had also been stated that the Roman influence in Gaul was insignificant, and that the army of occupation of the Romans consisted only of four legions, each of 6,000 men. But it has not been taken into consideration that this occupation continued during five centuries, so that the influence of but 24,000 must within such a space of time be enormous. But the great pivot of Aryanism is philology.

It is said, Celts, Germans, Slavonians, Greeks, Romans, Scandinavians, Dutch, Persians, Hindoos, etc., speak idioms derived from the Sanscrit, consequently they must be Arians. He was opposed to a system tending to constitute a proof of what the bones and the flesh of a people had been. The Aryanists when they perceived the break

* Continued from No. xiv, p. 288.

down of their argument, turned round and endeavoured to prove *anatomically* the value of philology. In order to arrive at such a demonstration the philologists imagined that the Aryan race possessed three principal forms of crania, the dolichocephalic, the brachycephalic, and the orthocephalic. Dolichocephalic, the Celts, Scandinavians, Frisians, Dutch Slavonians; brachycephalic, the Southern Germans and Slavonians; orthocephalic, the Greeks, Persians, Romans. If linguists were for a moment to forget philology they would be much embarrassed to justify so arbitrary a division. The only plausible reason which they give us is this: that three principal forms are now observed among the people speaking languages derived from the Sanskrit, and thus they give to the Aryan cranium a more or less multiple form just as philology requires it. Everyone must see at once how vicious such a mode of reasoning is. In the first place three forms of crania in one race sufficiently prove a diversity in blood (the principle that the diversity of form proves diversity of race has been numbers of times laid down by M. Pruner-Bey himself). Thus we have the pure Mongol race of which the Kalmuck is the type, which presents but one form—the brachycephalic. There is no dolichocephalic Kalmuck.

The negro race also presents but one form—dolichocephaly. There is no brachycephalic negro. Each of these stocks when pure has its proper form, why should it not be so with the Aryan race? History replies, intermixture has done it. But we have not only to do with three forms, for each of these three forms may be again subdivided. Thus the Roman oval is not the Persian nor the Hindoo oval; the Greek form is neither the Celtic nor the Scandinavian form, the Slavonian and Germanic crania are now dolichocephalic and few brachycephalic, and so it is with French and other crania. The Aryan oval has thus nothing peculiar; and the Finnish, Basque, and Arab ovals are as much oval as the Roman oval, which is presented to us as one of the prototypes of the oval Aryan cranium.

We would now part with the craniological characters and pass to others. If an anthropologist were to present to us a Mulatto, the issue of a Negro and a white woman, as the type of the Negro, we should simply laugh at him. Well, the system of philologists leads to the same thing; for there is perhaps less difference between such a Mulatto and a Negro than between the races called Aryan. Commencing by the face, compare the Slavonian face with that of a Persian, Roman, or Greek, or that of the Hindoo with the Celtic face, or the Scandinavian with the Hindoo or Greek face. The constitutions equally differ; and as to the coloration there is nothing more unlike.

To cover this heterogeneity it is simply said that the Celts, Ger-

mans, Slavonians, Greeks, etc., resemble more the *Hindoos* than the *Negroes* and the *Mongols*. Nobody doubts this, but this proves nothing. The Arabs, the Finns, the Basques, etc., are in the same condition, why exclude them from the Aryan group? The answer to this is always the same: philology requires it. But whilst there are writers who make light of these objections there are others who consider them sufficiently important to endeavour to explain them. Thus, Clavel (*Des Races Humaines*, etc.) and Prichard, tell us that the Aryan branch which peopled Northern Europe came by the country north of the Caspian, where the Mongolian race was already established, with which they intermixed; hence brachycephaly among some Aryans. As regards the second branch which peopled Southern Europe, that passed by Asia Minor, the Hellespont, and the Bosphorus; and M. Clavel adds that meeting here with the Semitic race they intermixed; hence the dolichocephaly in the Aryan race. Thus even according to M. Clavel, who is an Aryanist, the famous race when it arrived in Europe was no longer pure Aryan. All this proves that the Aryan theory is not satisfactory even to those that profess it, and those only make light of the objections to it who have only studied one side of the question. Finally in England that country of positivism and of cool reflection, the theory of Aryanism is much shaken and scarcely exists in form of a system.

The meeting then adjourned.

August 4, 1864.—M. Quatrefages presented to the society a memoir by M. Boucher de Perthes, "sur les ossements humains trouvés en 1863 et 1864 à Moulin-Quignon dans un terrain non remanié." Report on the Excavations of Chamant (stone period). The sepulture of Chamant (long-barrow stone period) has already been described (Bulletins i, iv). The excavations interrupted during the winter have been resumed May 16 in the presence of Count de Lavaulx and many members of the society. The following objects were found in the last two chambers:—1. A magnificent flint hatchet, marvellously polished, the edge of which was still very keen. 2. Several bones of domestic ruminants. 3. A fragment of the jaw of a badger. 4. Fragments of rude pottery dried in the sun. 5. A large quantity of cinders and of wood charcoal. 6. Some carbonised bones of mammals. 7. Fragments of flint arrows and a large number of unworked flints, but which had evidently been deposited in the grave as none of them are found in the vicinity. 8. A large number of fragments of a greenish-grey stone, which when rubbed, and still more so when broken, exhales a strong odour of hydro-sulphuric acid. There exists no such stone in the vicinity. Some of the fragments are very small, others weigh above a kilogramme. No trace of metal was found. . . . The human

bones are very numerous ; two crania only have preserved their shape though they are much decayed. One belonged to a child about seven years of age. The second skull of an adult male about thirty years of age had lost a portion of the face and one of the temporal bones ; the cranium is oval, the frontal region much developed, the occipital region is still more so. The mastoid apophyses are long and voluminous, the occipital protuberance but little projecting, the occipital foramen is large and oval. Antero-poster. diameter maxim., 190 ; transv. maxim., 142 ; cephalic index, 74.73 ; vertical basilo-bregmatic diameter, 137, vertical index of the cranium, 72.22 ; frontal diameter minim., 90. This cranium is thus dolichocephalic. Among the other three crania already mentioned (Bullet i, v) No. 2 is still more dolichocephalic, the two others are mesaticephalic. On the whole, of the four crania of Chamant two are decidedly dolichocephalic and two mesaticephalic. The absence of brachycephalic crania in this grade of the stone period is noteworthy. The long bones are generally of small dimensions. Everything indicates that this people were of a stature shorter than ours. All the humeri have been collected to study the question of the olecranian hole. Of thirty-four humeral bones from the sepulchral cavern of Orrouy (bronze age) eight presented a natural perforation in the olecranian fossa. In order to properly appreciate this fact it must be remembered that in the Merovingian sepulture of Chelles there were in 1,000 tombs which had been opened only five perforated humeri found (four of these are now in the museum of the society).

It is natural to ask whether this anomaly so rare at present may not at a remote period have been prevalent among the autochthonic races ; but the facts do not yet authorise us to infer that there existed in this region a race characterised by a perforation of the olecranian fossa. In order to explain the frequent occurrence of this anomaly in the bones found at Orrouy, M. Broca thinks that it might have been the burial place of a family or of a small tribe in which by consanguine intermarriages this anomaly had become hereditary. Only one entire tibia has been found at Chamant, but tibial diaphyses were found in large numbers. M. Lagneau on this occasion made the interesting observation that the crest of the tibia was sharper than in those of modern skeletons, and that the diaphysis presents the form frequently seen in rachitic children. But the tibias of Chamant are not rachitic, and their conformation is not pathological. This observation has acquired some importance since the excavations made in the caverns and the osseous breccia of Gibraltar have furnished tibias similar to those found at Chamant, which results from an article by Mr. Busk in the *Reader*. The bones of Gibraltar seem to have been contemporary

with the rhinoceros, and are much older than those of Chamant, which date only from the *polished* stone period.

M. Broca read a paper on the condition of the crania and skeletons in ancient graves.—In crania taken from the earth and preserved for some centuries in ossuaries there is generally found a little dry mass of the volume of a walnut or an egg, sometimes hard and moveable, and frequently difficult to extract, which constitutes the desiccated and mummified brain. But when the cranium lies in the earth the cranium is filled up, which contributes not a little to its preservation. The excavations made in August and September 1863 in the Merovingian cemeteries of Cheller and Champlieu and those previously made by M. de Roucy in the Gallo-Roman cemetery of Mount Berny enabled M. Broca to study this question and to describe some curious phenomena.

At Mount Berny most of the bodies were deposited in graves and then covered with a sandy earth. These crania were found full of earth and a small quantity of fragments of stones which could easily be extracted. But at Cheller and Champlieu most of the bodies, according to the custom of the Merovingian period, had been deposited into stone troughs, some monoliths, some formed of two pieces, all covered with a large slab under a bed of vegetable earth, the thickness of which varied from fifty centimeters to one meter. The skeletons found in these graves were greatly altered and crumbled into pieces at the slightest contact. Their colour was yellowish red, they were extremely light, and their compact tissue decomposed into laminae and foliated. This alteration is apparently owing to an interstitial development of small crystals of acid phosphate of lime. It is exclusively observed in close graves in which the bones after the decomposition of the flesh come into contact with a confined air.

In the graves where there is a sufficiency of earth to cover the skeletons the bones are much better preserved. The crania which were filled with earth were generally best preserved. The substance which they contained was so compact that it took time and patience to extract it by the introduction of a pointed stick into the foramen occipitale.

In certain crania, fragments of stones were found so large that they could only with great difficulty be dislodged. All objects found in the graves were also found in the crania, such as nummulites, snail shells, human teeth, phalanges, and in one case in a perfect cranium a piece of parietal bone four centimeters long and three and half centimeters broad. What most had struck him was the size and the number of solid bodies found in the crania. Both the stones and the bones found in them are deposited in the museum in separate packets.

M. Pouchet said that he could confirm what M. Broca had stated as to the introduction of foreign objects. He found at Rouen in the diluvium amongst other bones the femur of a horse. On shaking it he heard a noise denoting the presence of a foreign body though no external aperture could be detected. He subsequently traced the noise as due to the presence of a small fluviatile shell, which evidently could only have entered by the nutritious canal of the bone as no other aperture could be seen.

On the Frontal Region in Man and the Anthropomorphous Apes. By M. GRATIOLET.—M. Gratiolet called the attention of the Society to a fact which in his opinion had not hitherto been properly estimated, namely to that part of the face called the forehead, which is usually limited below by the superciliary arches and above by the implantation of the hair. We ought not, however, to confound the frontal bone which is found in all vertebræ with the forehead, which imparts to the face its intellectual physiognomy, which should only apply to that part of the frontal bone which covers the anterior lobes of the brain. He insisted upon this distinction because it had not been taken into account in the attempted approximation of the anthropomorphous apes to man. On examining a human cranium it will be found that the superior orbital plate is entirely covered by the brain, and that the curve of the frontal bone is, so to speak, moulded by the projection of the anterior lobes of the brain, so that in man forehead and frontal bone are nearly synonymous. On examining, however, the crania of the chimpanzee and of the gorilla, it will be found that in the chimpanzee the brain covers only the posterior third of the orbits, and that the two anterior thirds are covered by the development of the frontal sinuses. This disposition obtains still more in the gorilla, and in some the orbits are beyond the plane of the cerebral mass, the volume of which is thus greatly reduced. This may be demonstrated by a simple experiment. On driving a metallic pin into a human cranium above the superciliary ridge it will enter the cranial cavity. In the chimpanzee it may do so by giving the pin an oblique direction, but in the gorilla, after traversing the frontal sinuses, the pin does not enter the cranial but the orbital cavity. We may thus say that the chimpanzee has a forehead, though much smaller than that of man, whilst the gorilla is entirely deprived of it, and is only a well characterised Cynocephalus. In the profile of the chimpanzee we perceive a certain curvature which tends to diminish prognathism, whilst in the gorilla the line of prognathism is regularly continued from the summit of the frontal bone to the free extremity of the teeth, being only interrupted by the excessive prominence of the superciliary arches. The cranium of the chimpanzee thus more resembles that of man than the cranium of the gorilla.

On the Celtic Question. By M. PRUNER-BEY.—A tribe of Germans gave, within historical times, its name to the French nation. A Scandinavian tribe gave its name to the Russians. These denominations given by foreigners, of which there exist many examples, are sufficient to show that political names are, so to speak, owing to mere chance. Placed between the above-mentioned empires, Germany has also undergone its vicissitudes of denominations. Its modern name in French is derived from the confederation of some tribes (Allemani) comprising scarcely the fourth of the Germanic peoples, and who themselves had originally no comprehensive name. It was only in the ninth century that the name *diotisc* (deutsch) designated the German idiom. The ancient name of *Germani* is only found in literature. The name of *Germani* is scarcely of German origin; it signifies in the Celtic languages *neighbour*, and was at Cæsar's and Tacitus' time applied to some small tribes (Tungri, Condrusi, Eburones, Pæmani, Segni) settled on the Rhine. Even some veritable Celts went by the name *Germani* (Oretani). This name, which had thus at first but a partial signification, became among the Romans and Greeks a general term for Gauls. After giving some further examples of the origin of Ethnic names, M. Pruner-Bey said that as a base of discussion on the Celts, he accepted the following conclusions arrived at by M. Brandes.

1. Before the conquest of Gaul by Cæsar, the Gauls and the Germans were too little known to enable the writers of that remote period to distinguish these two nations.

2. The Ethnic trunk, which now we term Celts, is the most western among the Indo-Europeans, and occupied at Cæsar's time a great portion of Europe, namely the countries on the Danube and some parts of Central Germany, Upper Italy, some parts of the Iberian peninsula, Gaul, and the British islands.

3. The elder branch of the Celtic stock, which advanced first towards the west, is the Gadhélic branch, which already, at the time indicated had been drawn back by the Kymric branch.

4. Already at the beginning of our era the Gadhéles occupied only Ireland and Scotland north of the wall of Severus. It is nevertheless possible that in southern Gaul some remnants of the Gadhélic people had maintained themselves.

5. In Britain, south of the wall, dwelt the Kymris, immigrated from different regions of Gaul, and chiefly from Belgium.

6. The Celts settled in continental Europe were Kymris, excepting some Gadhélic remnants in southern Gaul.

7. The Gaulish Celts had in the south intermixed with the Iberians, and in the north with the Germans.

8. Some of the Belgian tribes must be considered as Celticised Germans.

9. Remnants of the ancient Gaulish language and of Neo-Celtic idioms are met with in the French language and in the *patois* of the south.

10. Although the Celtic Britons had partly immigrated from Brittany, their affinity with the ancient Gauls is very probable.

Having thus given a succinct account of the results arrived at by modern science as regards the Celts in general, he would first throw a glance on the most illustrious branch of the Celts—the Gauls. And, first, as regards their language and monuments, he would quote the words of Houzé (*Etude sur la Signification des Noms de Lieux en France*, 1864), "When you tell me that our language, as well as our soil, is almost entirely deprived of Celtic, pre-Roman, essentially Gaulish monuments, I stop you short at once by requesting your attention to another species of linguistic medals, which, though they have undergone greater modifications than the names of individuals, are still distinctly recognised by a patient and scrutinising eye, and these are topographical names." And, in fact, the soil of France is covered with names which prove the presence of the Celts in masses, and the nature of their language.

M. Pruner-Bey then proceeded to compare the phonology, grammar, and vocabulary of the French with those of the Celtic language. As regards the vocabulary, he observed an erroneous idea had become current, namely, that but a small fraction of Celtic words could be traced as existing in French. M. Brandes has collected not less than four hundred French words which belonged to the Celtic idiom. Even this list seemed to him too restricted; for he felt sure that a considerable number of words not contained in the above list will be found to be of Celtic origin, though not yet acknowledged as such. . . . the French language, is compared with its neo-Latin sister languages, eminently Celtic and Gaulish. As regards Celtic archaeology, he agreed with M. Bertrand that we must not look for the ancient Celts in the large dolmens. He believed, on the contrary, that where in our western countries we find cremation, urns containing ashes and bones more or less calcined, traces of agriculture and objects in bronze and copper, the presence of the Celt is more than probable; as the historical documents show that the Celt was in possession of these materials. . . . But, though everything indicates that in western Europe the Celts knew the use of metals, they did not at a remote time possess them all at once. Thus M. Wilde, speaking of Ireland, perhaps the most Celtic of all countries, says, that the transition from rude flint implements to metal objects must have been very gradual. That metal

was used by the king and the chiefs, and that stone weapons were in Ireland still in vogue in the ninth century by the side of iron weapons.

As regards Gaul, M. Martin represents the polished stone hatchet as characteristic of the Gauls. Archæology, proceeded M. Pruner-Bey, requires the assistance of anatomy in order to classify the human remains found in the graves with the objects which accompany them. The intermixture of the Celts with other peoples had already been recognised in antiquity. Thus there are cited Kelto-Iberians, Kelto-Ligures, Gallo-Greeks, Kelto-Seythians, to which he would add Kelto-Romans, Kelto-Germans, etc. This applied to the continent. As regards the islands, Tacitus, whilst recognising the resemblance of the Britons to the Gauls, and that of the Caledonians to the Germans, clearly separates the Silurians. We have no record as to Ireland, but from tradition we may infer the existence of at least two populations differing in colour apart from the swarms of immigrants mentioned in history and tradition. . . . Linguistically the Iberians are of right the oldest; for their language is not only a primitive language, but it also bears the stamp which characterises the hunting peoples of the new world. By an inconceivable inadvertence the Ligures and Iberians have been held of no account in a certain region of literature, and there were substituted for them the Gaëls, which have scarcely any historical existence on the Continent. The classification into Gaëls and Kymris has only a linguistic value. The Gaëlic, as a language, exists only in Scotland and Ireland. In this respect all the Celts of the Continent belong to the Kymric branch. A single branch among the Celts call themselves historically in their traditions *Kymro*; this is one of the tribes inhabiting Wales. There is no historical document which authorises us to divide the continental Celts into Gaëls and Kymris. Hence the confusion in the ethnogeny of France. He would, on the one hand, reinstate the Iberians and Ligures, and would, on the other hand, insist on the essentially Celtic and Aryan character of the great man of the French nation. The physical type of the ancient Celts (Gauls) can, as regards the ensemble of its character, scarcely give rise to any discussion, as the testimony of antiquity is unanimous in this respect. The form of their cranium presents almost the same type everywhere, as shown by the results obtained by anatomists who have paid special attention to craniology. . . .

Have the Celts inhabited the north, and especially Scandinavia? The historians, archæologists, and anthropologists of Scandinavia, excepting M. Worsaae, who substitutes for them the Goths, but gives no reasons, reply in the affirmative. The religious rites, as well as

the topographical names which they have left behind them, are, according to the Scandinavian authorities, Celtic. Moreover, the cranial type, and the height of the skeletons, seem to confirm it. There exist, moreover, two historical facts which deserve our attention. Tacitus places the Gotini in the north of Germany in proximity with the Guttones (Germans). He considers their idiom as being Celtic, and says that they worked iron mines. He also reports relative to the *Æstii* (Zeus places these among the Lithuanians), settled at his time on the shores of the Baltic: "*Æstiorum gentes . . . quibus ritus habitusque Suevorum, lingua Britannicæ propior. Insigne superstitionis formas aprorum gestant. Rarus ferri, frequens fustium usus. Frumenta ceterosque, fructus patientius quam pro solita Germanorum inertia laborant. Succinum glesum, vocant.*" Thus the language, the religious symbol of the boar, the club of a Gaulish Hercules, the term *glesum*, so deeply rooted in the Celtic languages, etc., all this is found in the same people. Can this be by mere chance?

M. Bonté, at a previous meeting, in order to combat the unity of the Aryan race, said: "The Negroes are dolichocephalic, the mongrels brachycephalic. Why should the Aryans present different forms of crania?" Now, what is applicable to one race is not necessarily applicable to all. Moreover, he contested the fact especially as regards the Mongols. Most of the Chinese and the Tunguses are dolichocephalic as well as the Vogules, who, according to De Baer, are eminently so. And the most homogeneous branch of the Aryan family, namely the Germans, also offer diversities in the cerebral cranium. From this fact we must infer that whatever may be the importance of this portion of the skeleton in other respects, it has only a secondary value when all the other characters agree, as is the case with the Celts, Germans, and Slavonians. M. Bonté said, that the latter resemble more the Mongols than the Scandinavians. Let him furnish us with the proofs. As regards the Basques, they are at present too much mixed; we must, on this question, before all, find the primitive Iberian type, which in respect to the cranium, is still under discussion.

With regard to the so-called historical data concerning the intermixture of the Aryans during their emigration from Asia to Europe, they are altogether apocryphal. Most anthropologists agree that there exist typical forms in all the branches of the Aryan stock, types which still persist despite that intermixture is in full activity. M. Pruner-Bey, after proceeding to discuss the question of the Aryans of India with regard to purity of blood and intermixture, as put by M. Bonté, continued: According to M. Bonté, different form of

cranium—different origin; different colour of hair—different origin; different stature—different origin, etc. Whither would such propositions lead if applied to ourselves. We do not resemble each other in the sense M. Bonté takes it. We consequently ought to be the representatives of a number of races, if not of species. In his essay on the *Unity of the Aryan Race*, he had insisted on the differences subsisting between the branches of the Aryan family. We must, however, take care not to exaggerate and compare only what is comparable. Thanks to M. Quatrefages, he had been enabled to compare a very ancient cranium of a Greek female with that of an ancient cranium of a Celtic female. After giving a detailed account of the structure of these two crania, illustrated by a table of comparative measurements, M. Pruner-Bey said in conclusion: Let those who would sift the question inspect my tables representing the measurements of individual crania, race by race, as deposited in the gallery, and tell me whether the individual differences in an established race do not present the same limits as those demonstrated in the female crania of two branches of the Aryan race. But when the Celtic woman is found so approximated to the Greek woman, the distance between the Hindoo and the Greek type is comparatively small. Finally, if the ladies of Cachemir are such as described by travellers, and if the Hindoo woman generally is such as depicted by a distinguished artist (M. Petrowich), it is impossible for me to detect an essential difference between her and a nut-brown woman of southern Italy, except that the latter has more *enbonpoint*. M. Pruner-Bey then exhibited a table of comparative measurements of the crania of two females, one of the ancient Celtic, and the second of the ancient Greek race.

M. Leguay presents to the Society several objects found in the excavations made for laying the foundations of the new barracks in the Cité of Paris. In describing the locality, M. Leguay observed: It is noteworthy that the soil of the island called la Cité is formed of alluvium protected by a solid portion upon which the church *Notre Dame* now stands. The soil of this spot presented in the thirteenth century sufficient resistance to build upon it this immense structure. It is now ascertained that this edifice was not, as so frequently asserted, built upon piles. The objects presented consisted of a hand millstone about twenty-three centimeters in diameter, and fifteen centimeters thick, a double antler of the common stag, sawed at its lower part, and probably destined to serve as a handle for some flint or metal instrument; and a horn belonging, according to M. Lartet, to a young *Bos primigenius*, or *urus*, also sawed at its lower part.

M. Pouchet doubted whether the horn had been separated by a saw; it would be interesting to examine by what process the section had been made.

M. Leguay then called attention to a discovery made by him at Varenne-Saint-Hilaire of a small monument of the stone period. He could not at present say whether this monument was erected as a memorial, or whether it contains the bones of an individual; he expected to be enabled to give a better description after further explorations.

M. Leguay then showed to the Society the plan he had sketched of this sepulchre, some worked flints of various shapes, a large quantity of unworked small stones found in the earth covering the grave, bones and teeth of ruminants not burned, burnt bones of animals not specified; all these bones were in a fragmentary condition; and, finally, a large quantity of fragments of pottery, broken off from vases belonging to the stone period.

The meeting then adjourned.

August 18th, 1864.—M. Pruner-Bey rectified some passages attributed to him. He is made to say that the antero-posterior diameter of the pelvis of the negro exceeds the transverse diameter; he never made such an assertion, and the passages quoted have no such signification. It has also been stated that the tickets on the casts of the Basque crania deposited by him in the gallery of the Museum had been written by himself, which is not the case as they were written by the employés of the Museum.

Excavations at Chaffant (Vienne).—M. Leguay presented to the Society nineteen flint knives found in the grottoes of Chaffant, collected by MM. Meillet and Brouillet. These objects presented, by their forms, two distinct types. According to his classification of the flints of the stone period, he placed the objects found in the grottoes of Chaffant in the first period of the second epoch, which is that preceding the epoch of polished stones. MM. Meillet and Brouillet have found in these grottoes worked bones, which they intend to describe in a separate work. M. Leguay gave some further particulars in the excavations in the Cité.

The Secretary-General placed upon the table some worked flints sent by M. Meillet, of Poitiers, found in the beds at Pressigny-le-Grand, which gave rise to a discussion. Some particulars about these beds will be found in a subsequent paper by M. Leguay.

A paper by Giustiniano Nicolucci on some Phœnician crania. (Inserted already in the *Anthropological Review*.)

Dr. Barnard Davis's paper on the Neanderthal skull was then read by M. Giraldés, who had undertaken its translation.

M. Broca said: The Neanderthal cranium has given rise to various opposite interpretations; Dr. Barnard Davis has given a new one which deserves consideration. It is certain that the ossification of

some sutures supervening before the complete development of the head may induce considerable deformations. This fact has already been pointed out by Virchow, and is confirmed by several specimens in our Museum. In all these specimens I have remarked that the deformation had for its consequence the destruction of the symmetry of the cranium; it is, however, clear that if the synostosis manifests itself simultaneously and in the same degree in two symmetric sutures, the cranium, though deformed, may preserve its symmetry. The similitude of both halves of the Neanderthal cranium cannot, therefore, be invoked as a decisive objection to the interpretation of Dr. B. Davis; it only tends to diminish its probability. I do not intend here to discuss the Neanderthal question, which is still obscure, and upon which I have as yet formed no fixed opinion, but I take this opportunity to draw attention to a circumstance which, by my own negligence, may have misled Dr. Barnard Davis. I have sent him the casts of some of our crania, and specially that of No. 8 of the series of Orrouy (bronze age). This cranium, the form of which is so remarkable, presented in the place of one temporal squama an aperture of several centimetres which was filled up with pasteboard. The result was, that in the casts the squamous suture appears obliterated, and Dr. B. Davis, to whom I had not communicated this circumstance, naturally concluded that the suture in question had been the seat of a premature synostosis. He was thus led to suppose that the particular form of the cranium No. 8 of Orrouy might, like that of the two crania described by him, be attributed to synostosis. When I was informed by letter of this mistake of mine, I immediately wrote to that effect to our eminent colleague, who at once discarded the cranium. But as his opinion concerning this cranium had already been published in England, I felt bound here to state that the fault was mine. Moreover, the casts of this cranium being now deposited in the principal museums of Europe, it is as well to caution observers against being led into error by the circumstance I have mentioned.

On the Crania of Orrouy. By M. BROCA.—M. Broca having been led to speak of cranium No. 8 of Orrouy, I beg permission to offer some remarks on the truly bizarre conformation of this cranium. The three most striking characters are: the narrowness and small elevation of the forehead; the enormous development of the parieto-occipital region, and the singular flattening on both sides at the level of the parieto-mastoido-occipital suture. This flattening which, by abbreviation, I shall call super-mastoidian, is perfectly symmetric on both sides. I add a fourth character, namely the considerable capacity of this cranium, which measures 1699 cubic centimeters,

i.e., 213 centimetre cubes beyond the mean capacity of modern crania of Paris.

A single glance at this cranium leads to the belief that it is deformed either by some mechanical action or by some pathological cause. The hypothesis of an artificial deformation can be scarcely entertained, for it would require the skill of modern surgical instrument makers to produce a mechanism capable of producing a compression from below upwards, and from the outside inwards at the level of the two sutures which are the seat of the flattening. It is impossible to admit that the ancient population of Orrouy had such means at their disposal, and I may add that among the numerous deformations described by our venerable colleague, M. Gosse, there is none resembling the conformation of the cranium of Orrouy.

The hypothesis of a pathological deformation not by hydrocephaly, of which there exists no trace but of cerebral hypertrophy, might find some support in the considerable development of the internal capacity of the cranium. But on examining the other crania of the series we are led to recognise that this super-mastoidian flattening is an hereditary character in the population of Orrouy. . . . It appears to me very probable that the super-mastoidian flattening is one of those variations which occur accidentally in an individual, and are then transmitted through a number of generations, as observed in polydactyly and other anomalies. Such family characters may, as is well known, survive intermixture, but eventually they disappear. I already had occasion to observe that the cavern of Orrouy seemed to have been the sepulchre of a small tribe, or perhaps of a single family. This is another circumstance supporting this opinion. In this sepulchre of Orrouy were found thirty-two humeral bones, of which eight, now in our museum, are pierced in the olecranian fossa. This anomaly, perhaps not so rare formerly as now in the European races, was very frequent in the population of Orrouy, owing to heredity, favoured probably by consanguinity. It is thus that Tiedemann explained that most of the inhabitants of a small German village presented the anomaly of a premature bifurcation of the humeral artery. I am thus led to believe that the unusual characters of the crania of Orrouy are individual variations propagated by transmission through several generations. This hypothesis seems to me the most probable as these characters are not met with in other localities.

M. Giraudeau observed that M. Broca seems to think that strong pressure was required to deform the cranium; but that he recollected a case of a notable deformation being produced in the cranium of a child in consequence of the retraction of a cicatrice from a burn.

The form of the cranium No. 8 is moreover not so symmetrical as stated by M. Broca. We should be very cautious in appreciating deformations of unknown individuals. A partial hypertrophy of the brain cysts, consecutive to meningeal hemorrhages, hydatids, etc., may produce deformations tending to lead us into error.

M. Broca said that he agreed with M. Giraldés that apparently slight causes, whose action is continuous, may in time produce considerable deformations; but in the particular case of the crania of Orrouy, the super-mastoidian flattening cannot be considered as pathological; first, because it exists symmetrically on both sides, and specially because it is found in a large portion of the crania of this series.

[*To be continued.*]

ANTHROPOLOGY AT THE BRITISH ASSOCIATION.

WE understand that the President of the Anthropological Society of London has received a large number of congratulations from anthropologists, both in this country and especially from abroad, at the recent recognition of the science of anthropology by the British Association. We feel it our duty to join in their chorus of congratulation, more however from sympathy than from a belief that the present position of the science of man in the Association is satisfactorily or finally settled. The anthropologists have won a great and decided victory. Under such circumstances, it behoves them to be contented at least for a time. There is a very general feeling that things will soon right themselves. The first great step has now been gained, and we venture to assert without fear of contradiction that the real genuine scientific work done in the department of anthropology was not surpassed by any of the sections during the past meeting of the Association. This must be highly satisfactory both to anthropologists and to those of the authorities of the Association who were instrumental in bringing about the recognition of the science of man as a special branch of science.

The Nottingham meeting of the Association was on the whole a decided success. There was an earnestness about the whole proceedings which could not fail to do good to the cause of science. The admirable address of the President, Mr. W. R. Grove, was something which at once gave a tone to the meeting. It will long be remem-

bered as one of the addresses which really helped to advance the cause of science. We could wish that the authorities of the Association would bear this object more continually in mind. We fear that this is sometimes forgotten by them. It is not our duty or business, however, on this occasion to dwell on the general management of the Association. Our duty will be best discharged if we give a short account of what was done to advance anthropology by the Association.

We shall commence by giving a few extracts from Mr. Grove's address, and then give a summary of the work done in the Department of Anthropology. On future occasions, we may print some of these communications at length.

"But there is another difficulty in the way of tracing a given organism to its parent form, which, from our conventional mode of tracing genealogies, is never looked upon in its proper light.

"Where are we to look for the remote ancestor of a given form? Each of us, supposing none of our progenitors to have intermarried with relatives, would have had at or about the period of the Norman Conquest upwards of a hundred million direct ancestors of that generation, and if we add the intermediate ancestors, double that number. As each individual has a male and female parent, we have only to multiply by two for each thirty years, the average duration of a generation, and it will give the above result.

"Let anyone assume that one of his ancestors at the time of the Norman Conquest was a Moor, another a Celt, and a third a Laplander, and that these three were preserved while all the others were lost, he would never recognise either of them as his ancestor; he would only have the one-hundred millionth of the blood of each of them, and as far as they were concerned there would be no perceptible sign of identity of race.

"But the problem is more complex than that which I have stated; at the time of the Conquest there were hardly a hundred million people in Europe, it follows that a great number of the ancestors of the *propositus* must have intermarried with relations, and then the pedigree, going back to the time of the Conquest, instead of being represented by diverging lines, would form a network so tangled that no skill could unravel it; the law of probabilities would indicate that any two people in the same country, taken at hazard, would not have many generations to go back before they would find a common ancestor, who probably, could they have seen him or her in the life, had no traceable resemblance to either of them. Thus two animals of a very different form, and of what would be termed very different species, might have a common geological ancestor, and yet the skill of no comparative anatomist could trace the descent.

"From the long continued conventional habit of tracing pedigrees through the male ancestor, we forget in talking of progenitors that each individual has a mother as well as a father; and there is no reason to suppose that he has in him less of the blood of the one than of the other.

"The recent discoveries in palæontology show us that man existed on this planet at an epoch far anterior to that commonly assigned to him. The instruments connected with human remains, and indisputably the work of human hands, show that to these remote periods the term civilisation could hardly be applied—chipped flints of the rudest construction, probably, in the earlier cases, fabricated by holding an amorphous flint in the hand and chipping off portions of it by striking it against a larger stone or rock; then, as time suggested improvements, it would be more carefully shaped, and another stone used as a tool; then (at what interval we can hardly guess) it would be ground, then roughly polished, and so on,—subsequently bronze weapons, and, nearly the last before we come to historical periods, iron. Such an apparently simple invention as a wheel must, in all probability, have been far subsequent to the rude hunting-tools or weapons of war to which I have alluded.

"A little step-by-step reasoning will convince the unprejudiced that what we call civilisation must have been a gradual process; can it be supposed that the inhabitants of Central America or of Egypt suddenly and what is called instinctively built their cities, carved and ornamented their monuments? if not, if they must have learned to construct such erections, did it not take time to acquire such learning, to invent tools as occasion required, contrivances to raise weights, rules or laws by which men acted in concert to effect the design? Did not all this require time? and if, as the evidence of historical times shows, invention marches with a geometrical progression, how slow must have been the earlier steps! If even now habit, and prejudice resulting therefrom, vested interests, etc., retard for some time the general application of a new invention, what must have been the degree of retardation among the comparatively uneducated beings which then existed?

"The doctrine of continuity is not solely applicable to physical inquiries. The same modes of thought which lead us to see continuity in the field of the microscope as in the universe, in infinity downwards as in infinity upwards, will lead us to see it in the history of our own race; the revolutionary ideas of the so-called natural rights of man, and *à priori* reasoning from what are termed first principles, are far more unsound and give us far less ground for improvement of the race than the study of the gradual progressive changes arising from changed circumstances, changed wants, changed habits. Our language, our social institutions, our laws, the constitution of which we are proud, are the growth of time, the product of slow adaptations, resulting from continuous struggles. Happily in this country, though our philosophical writers do not always recognise it, practical experience has taught us to improve rather than to remodel; we follow the law of nature and avoid cataclysms.

"The superiority of man over other animals inhabiting this planet, of civilised over savage man, and of the more civilised over the less civilised, is proportioned to the extent which his thought can grasp of the past and of the future. His memory reaches further back, his capability of prediction reaches further forward in proportion as his

knowledge increases. He has not only personal memory which brings to his mind at will the events of his individual life,—he has history, the memory of the race; he has geology, the history of the planet; he has astronomy, the geology of other worlds. Whence does the conviction to which I have alluded, that each material form bears in itself the records of its past history, arise? Is it not from the belief in continuity? Does not the worn hollow on the rock record the action of the tide, its stratified layers the slow deposition by which it was formed, the organic remains imbedded in it the beings living at the times these layers were deposited, so that from a fragment of stone we can get the history of a period myriads of years ago? From a fragment of bronze we may get the history of our race at a period antecedent to tradition. As science advances, our power of reading this history improves and is extended. Saturn's ring may help us to a knowledge of how our solar system developed itself, for it as surely contains that history as the rock contains the record of its own formation.

"By this patient investigation how much have we already learned, which the most civilised of ancient human races ignored! While in ethics, in politics, in poetry, in sculpture, in painting, we have scarcely, if at all, advanced beyond the highest intellects of ancient Greece or Italy, how great are the steps we have made in physical science and its applications!

"But how much more may we not expect to know!"

In the department of Anthropology, Mr. A. R. Wallace, President,

The PRESIDENT congratulated the audience on the inauguration of a department in which all students of man, by whatever name they might call themselves, could meet harmoniously to state their views and opinions, with the sole object of eliminating truth. Anthropology the President defined as the science which contemplates man under all his varied aspects—as an animal and as a moral and intellectual being, in his relations to lower organisms, to his fellow man, and to the universe. The anthropologist sought to collect together and systematise the facts and the laws which had been brought to light by all those branches of study which, directly or indirectly, had man for their object.

The comparative anatomist and the zoologist compare his structure with that of other animals, take note of their likenesses and differences, determine their degrees of affinity, and seek after the common plan of their organisation and the law of their development. The psychologist studies the mind of man, its mode of action and development, compares it with the instincts and the reasoning faculties of the lower animals, and ever aims at the solution of the greatest of problems—whence and what is mind.

The historian collects and arranges the facts of man's progress in recent times. The geographer determines the localities of the various races that now inhabit the earth, their manners, customs, and physical characteristics. The archaeologist seeks, by studying the remains of man and his works, to supplement written history, and to carry back our knowledge of man's physical, mental, and moral con-

dition, into *pre-historic times*. The geologist extends this kind of knowledge to a still earlier epoch, by proving that man co-existed with numerous animals now extinct, and inhabited Europe at so remote a period that the very contour of its surface, the form of its hills and valleys, no less than its climate, vegetation and geology, were materially different from what they now are, or ever have been during the epoch of authentic history.

The philologist devotes himself to the study of human speech, and through it seeks to trace out the chief migrations of nations, and the common origin of many of the races of mankind. And lastly, the phrenologist and craniologist have created special sciences out of the study of the human brain and skull. Considering the brain as the organ of the mind, the phrenologist seeks to discover in what way they correspond to each other, and to connect mental peculiarities with the form and dimensions of the brain as indicated by the corresponding form of its bony covering. The craniologist confining his attention to the skull as an indication of race, endeavours to trace out the affinities of modern and ancient races of men, by the various forms and dimensions of their crania.

These various studies have hitherto been pursued separately. There has been great division of labour, but no combination of results.

Now it is our object as anthropologists to accept the well ascertained conclusions which have been arrived at by the students of all these various sciences, to search after every new fact which may throw additional light upon any of them, and, as far as we are able, to combine and generalise the whole of the information thus obtained.

We cannot therefore afford to neglect any facts relating to man, however trivial, unmeaning or distasteful, some of them may appear to us. Each custom, superstition or belief of savage or of civilised man, may guide us towards an explanation of their origin in common tendencies of the human mind. Each peculiarity of form, colour, or constitution, may give us a clue to the affinities of an obscure race. The anthropologist must ever bear in mind, that as the object of his study is *man*, nothing pertaining to or characteristic of man can be unworthy of his attention.

It will be only after we have brought together and arranged all the facts and principles which have been established by the various special studies to which I have alluded, that we shall be in a condition to determine the particular lines of investigation most needed to complete our knowledge of man; and may hope ultimately to arrive at some definite conclusions on the great problems which must interest us all—the questions of the origin, the nature, and the destiny of the human race.

I would beg to recollect also, that *here* we must treat all these problems as purely questions of science, to be decided solely by facts, and by legitimate deductions from facts. We can accept no conclusions as authoritative that have not been thus established. Our sole object is to find out for ourselves what is our true nature—to feel our way cautiously step by step into the dark and mysterious past of human history—to study man under every phase and aspect of his

present condition ; and from the knowledge thus gained to derive (as we cannot fail to do) some assistance in our attempts to govern and improve uncivilised tribes, some guidance in our own national and individual progress.

Dr. HUNT proposed a vote of thanks to the Chairman for his excellent address, remarking that the meeting would agree with him that it had only one fault—that of being too short.

Dr. FAIRBANK seconded the motion, which was carried amid applause.

Mr. C. CARTER BLAKE *On a Human Jaw from the Belgian Bone Caves*.—The jaw was discovered in the Trou de la Naulette, near Dinant, Belgium, by Dr. E. Dupont, acting under the orders of the Belgian government. It was found in undisturbed sandy clay (*lehm*) at a depth of $3\frac{1}{2}$ metres (11 ft. 4 ins.), the clay alternating with stalagmite, and affording evidences of gradual deposition. The characters which it presented were very different to those exhibited by the jaws of the white races of the present day, and presented in many points an exaggeration of the characters of the lowest Australian jaws. In some respects it differed widely from the human jaws known to anatomists, and afforded great resemblance to the jaw of the young orang (*Simia morio*). Mr. Blake gave a careful comparison between this jaw and certain typical jaws selected from three thousand which he had examined, and summed up by expressing his belief that the jaw was of vast though unascertained antiquity, and that on the whole the jaw more closely resembled those of the Slavonic races than any other jaw, while in some points it presented an analogy to and exaggeration of the Australian.

The Rev. DUNBAR HEATH remarked on the uncertainty attending some of the discoveries of human remains, and on the greater apparent authenticity of the present "find." He should like to know whether reindeer existed at that period, and why only one bone should be found so distinctly ape-like. Belgium was in the reindeer period inhabited by a Tartar race, but it seemed that at a vastly more remote period there were inhabitants of an ape-like character. He could only account for this on the theory of development.

Dr. B. DAVIS said, supposing it to be human, he was inclined to think that it can hardly be regarded as normal ; but, from the great thickness in the body of the jaw, a sort of shelf of bone inside, it is most likely pathological, *i. e.*, affected with osteosclerosis. He also confessed that he could not but admire the elaborate examination of the jaw given by Mr. Carter Blake.

After some remarks from Dr. HUNT, Mr. REDDIE, and Mr. J. GRATTAN,

The CHAIRMAN remarked that the bone was very interesting irrespective of its antiquity ; for, if a race having this peculiar formation were found to exist now, it would be just as much a link between man and the larger apes as if it existed many thousand years ago. The layers of stalagmite indicated great antiquity.

Mr. BLAKE, in reply to Dr. Davis, said he had never seen any pathological specimen showing the peculiarities of the jaw in question.

A similar jaw had been found at Arcis-sur-Aube in France. Some of the Slavonic races manifested an approach to this deviation from the general type.

Mr. W. J. BLACK *On Colonies in South Africa.*

Mr. WILKINSON *On the Races in Madagascar.*

The CHAIRMAN said it was a very remarkable thing that people with a Malayan element in the language should be found in the interior of Madagascar, the Malays being peculiarly a semi-marine people. It might be that a party landed on that island, and had to fight their way into the interior, becoming ultimately of sufficient strength to conquer the native inhabitants.

Mr. E. L. LAYARD said, that during a brief visit to Madagascar he saw no indications of Malayan origin.

Mr. CARTER BLAKE said, that the whole weight of the craniological evidence appeared to be directly against the hypothesis of the Malay descent of the inhabitants of Madagascar. The skulls of many Hovas were now in the Anthropological Gallery of the Paris Museum. These offered numerous and wide marks of distinction from the skulls of Malays. The limits of variation of Negro and Negroid types were not yet ascertained; but the truest affinities of the Hovas appeared to him to be with the natives of Eastern Africa.

Dr. BARNARD DAVIS regretted that he had but one skull, and that an imperfect one; still he considered the valuable evidence derived from the collection of Hovas skulls in Paris, given by Mr. Carter Blake, was conclusive as to their being of Negroid race. The assertion that the Hovas spoke a Malay tongue was not supported by the researches of Mr. Crawford, a high authority on these points, and who accounted in the most satisfactory manner for the few Malay words in the language—language itself being by no means a test of origin. All authentic figures of the people of Madagascar represent them with curly, crisp or woolly hair, never with *straight* hair like Malays, as had been asserted.

The CHAIRMAN thought the straight hair, complexion, and countenance of the Hovas were so distinct from the African type as to prove that they had Malayan blood. The proof was independent and corroborative of that afforded by their language.

Mr. JOHN GRATTAN *on a New Craniometer.*—The instrument is highly ingenious, though somewhat complicated, and possesses the merit of affording correct delineations of the skull as well as accurate measurement. It consists of two parts: first, a contrivance similar to that used for swinging the mariner's compass fastened vertically to a perpendicular brass rod fixed in a table of wood; second, on a moveable base another brass rod furnished with two arms of the same length, one curved for passing over the surface of the cranium, the other furnished with a pencil and fastened by means of a lever so as to move in a circle round the fixed point of the cranium.

The cranium to be measured is fixed by the auditory foramen, and the naso-frontal suture is taken as the centre from which to measure. Outlines of the skull may be taken in any direction with great rapidity and accuracy, and by an ingenious contrivance these may be so fixed

together as to give a very fair idea of the general form. One great advantage of this invention is that a correct representation of a skull may be sent to any part, and its relative proportions and angles ascertained in accordance with any scale which may be adopted.

The CHAIRMAN: Everyone must have been struck with the difficulty of taking accurate measurements of the skull—a difficulty which has been rendered all the more apparent by the variety of methods which have been proposed for overcoming it. This form of a skull should always be separated from its absolute bulk. By this invention the angular measurements, form, and also dimensions are all given and can readily be reduced to either the English or foreign standard.]

Professor G. BUSK, F.R.S., stated that he was in the habit of using an instrument which he considered preferable to the one exhibited as being more simple and less expensive. It was constructed on the principle of a common shoemaker's gauge, consisting of a straight stem about twelve inches long, having an arm jointed to it at one end, which can be opened out to an exact right angle, and a second arm which can be slid up and down the stem also at a right angle. These arms should be six inches long. The stem and arms are graduated in inches and tenths on one side, and centimetres and millimetres on the other. The auditory foramen is taken as the fixed point and a needle in a piece of cork fixed in each. To take the distance in radial measurement, the stem is placed upon the point which the radial line is to be measured, and the arms are brought down on each side over the auditory foramen and the degree pointed at, which will be the same on both sides if the instrument is held properly, will be the radius sought. For comparison, Professor Busk takes as a vertical line one drawn from the external auditory meatus to the junction of the coronal and sagittal sutures. This as an invariable standard was first suggested by l'Abbé Frère. As a horizontal or base line he used one crossing the vertical at right angles at the centre of the auditory meatus, coincident in most cases with the floor of the nostrils. The object of a drawing is to represent things as they are seen. A sketch may be mathematically correct, and yet not convey so good an idea as a perspective view would. It is not, however, easy to give accurate measurements in such a figure, and so he was in the habit of giving five different figures of the same skull by means of the camera lucida. Professor Busk was of opinion that the craniometer exhibited was too complicated and expensive for ordinary purposes.

Mr. WESLEY, F.A.S.L., said that other instruments less complicated, such as those used by M. Broca and Professor Huxley answered very well. He agreed with Professor Busk that perspective view conveys the best idea of the general appearance of the skull, but was of opinion that the invention exhibited was very useful for correct measurement.

Mr. CARTER BLAKE was of opinion that all angular measurements Mr. Grattan made could be correctly made with Professor Busk's instrument, and protested against the wish to reduce delineations of the skull to mathematical instead of perspective drawings.

Sir J. LUBBOCK thought that persons clever with the pencil might

be able to make a correct representation of the skull without the aid of such a contrivance as the one exhibited, but was of opinion that to workers not so gifted it would prove exceedingly valuable.

Mr. J. GRATTAN, in reply to the various speakers, stated that his object was not so much the production of a striking picture as the attainment of exact measurements; by which it is more easy to detect slight differences than by perspective drawings. In practice he found the *camera lucida* not to be depended upon, in fact the drawings obtained by it were of very little value.

The CHAIRMAN observed that the fact that others had endeavoured with more or less success to construct instruments for the same purposes, did not detract from the credit due to Mr. Grattan as the inventor of the one exhibited. He was of opinion that for rapidity and accuracy no instrument yet invented equalled that of Mr. Grattan's, and that the question of price ought not to be taken as an objection where accuracy was desired.

Mr. E. B. TYLOR on *Phenomena of the Higher Civilisation traceable to a rudimental origin among Savage Tribes*.—After remarking that it was important to us to study the habits of the lower races, he said the stories of uncivilised races about their gods and heroes, cosmogonies, transformations, and origins, show us the mythologic stage underlies the poetry and religion of the Greeks and other nations, from among whom the highest modern civilisation has grown. The New Zealand myths held that we have had two primæval ancestors, a father and a mother, Rangi and Papa, heaven and earth. The earth, out of which all things are produced is our mother; the protecting and over-ruling heaven is our father. There he explained were the record of events. After a lengthy reference to the habits, literature, and especially to the fasting and worship of tribes. In conclusion he referred to primitive marriages as connected with the development of races from savage to civilised life, through the different stages of exogamy or the law of marriage out one's tribe. He believed one of the services of savage tribes was to enable civilised men to understand their position in the world.

Rev. DUNBAR I. HEATH was of opinion that the paper should have been styled "The Origin of Existing Errors in the Mythology of Savage Tribes." Mythology is a rude attempt to account for the phenomena of nature just as physiology is an attempt to explain the facts in natural history. The savage owing to the narrow limits of his observation takes erroneous views of natural phenomena as we now see was the case with ourselves when our knowledge was more imperfect. In the same manner that we used to speak of the "principle" of things, as of the wind, etc., etc. So the savage used the term "god."

Sir J. LUBBOCK also was of opinion that the evidence brought forward was, more correctly speaking, a relic of lower civilisations than a proof of the origin of those which now exist. Archaeologists are now of opinion that to arrive at a correct conception of antiquity, relics should be compared with objects used for similar purposes by existing savage tribes. In reference to the custom of destroying, as by fire, objects to be buried with the dead, which exists among

savage tribes, he pointed out what he believed to be misconceptions of motive.

I. When implements have been found burnt it has been supposed that it was intended as a protection against robbery. He believed that the real reason was that the savage had endeavoured in this manner to make them useful to the departed by killing them, so that the spirit of the one might go to the spirit of the other.

II. The curious custom of making things in resemblance of an enemy, observed in savage tribes, has led to the opinion that these implements might have been burnt with some idea of thereby injuring the departed. This he did not believe.

MR. GEORGE DAWSON was of opinion that a great amount of knowledge might be attained by the study of savage tribes. There was nothing of novelty in the paper, as the subject had been treated of by authors from Lord Bacon downwards; indeed, a valuable literature exists.

MR. REDDIE considered it doubtful whether savages understood the meaning of their customs and traditions. He believed they did not.

MR. CARTER BLAKE wished to know, taking all the races of men, where the author would draw the line of distinction between civilised and savage? And supposing the traditions of the Semitic nations resembled those of certain savage tribes, was the same law of evolution applicable to both?

MR. TYLOR, in reply, said: The question arises whether the title should contain a paper, or merely indicate the line of thought pursued? He was of the latter opinion. Perhaps a better title for the paper would have been: "Phenomena in the higher civilisations traceable in origin to the myths of the lower." He agreed with Sir J. Lubbock as to the motive savages had in burying implements with the dead. Though he believed that in most instances the object they had in burning them was to send their souls to the departed, and not to protect them from robbery, yet cases were on record in which there could be no doubt that this was likewise the intention. For instance, the Dyaks of Borneo did not originally destroy them, but when they found that the Malays rifled the graves, they then adopted the custom. He believed that whether destroyed or not, the object in placing them there was the same. In reference to the literature of the subject of the paper, he pointed out the difference between vague general remarks, and generalisations the result of careful study and research. It had been asked whether savages understood the meaning of their traditions? Some do—the New Zealanders, for instance, who believe that Rangi and Papa are the parents of everything, when asked who they each are, will point to heaven, and say, "That is Rangi," and to the earth, and say, "That is Papa."

DR. HUNT, "*On the Principle of Natural Selection applied to Anthropology, in reply to views propounded by some of Mr. Darwin's Disciples.*"—[See page 320 of the *Anthropological Review*.]

MR. REDDIE was of opinion that in the present state of our knowledge we had better take our stand as earnest and patient inquirers than as the supporters of theories. He thought that Psychology was

a better test of the difference between man and the apes than anatomy; that in intellect there was a far greater difference between the lowest man and the highest ape than between the highest type of man and the lowest. He considered that we have a case of change in type taking place before our eyes in the case of the North American. Although sufficient time has not yet elapsed to produce a unity in type among modern Americans, a slight change is produced in the same direction in each of the many nationalities represented among the immigrants. The individuals to be acted upon vary so much in the first instance, that a long time must elapse before a complete unity of type is produced, but sufficient change is observed to show what may be expected. Not sufficient attention has been paid to the fact that the same change of type is observed in those who have gone to live in America as in those born there. It would be interesting to know whether light and dark races are equally affected in this change. We are apt to confine our attention to the consideration of peoples now extinct, to the neglect of people now living. America is worthy of more attention than has been given to it. In Africa there is a great difference between the tribes. Are they distinct peoples? He believed they are not. Messrs. Baker and Beke believe that the African races are getting lower and lower, and he was of the same opinion. In the Irish, also, degradation is observed. When types become fixed, a great length of time would be required to change them. At first the modification might be rapid, but would probably afterwards proceed very slowly. He was strongly of opinion that the theory of unity of origin is more logical than the opposite one of diversity.

Dr. GRIERSON referred to the Book of Genesis, but was informed by the Chairman that it was not considered an authority in matters of science. As instances of change in type he mentioned the various breeds of dogs and pigeons, and was of opinion that the existing differences between the various divisions of the human race were not so great as those which we know have taken place in dogs and pigeons.

Rev. DUNBAR I. HEATH could not believe without evidence that the Newfoundland dog, which was unknown till the discovery of that island, was sprung from the same stock as the greyhound, figures of which are found on many ancient monuments. It should be remembered that the author had not stated that the various existing races of man were sprung from any at present in existence.

Professor BUSK objected to the manner in which the subject had been brought before the meeting. It should stand on its own merits, and not on authority. The opinions quoted were of very different value, and yet they were mixed together as though they were of the same. The theory brought forward by Mr. Darwin and advocated by Mr. Huxley, appears the only one yet advanced that will satisfactorily account for existing differences.

Mr. CARTER BLAKE, when recently engaged on the continent in the examination of evidence of man's early existence, was sorry to find that English anthropologists were thought to have settled down con-

tented with the Darwinian hypothesis. The only evidence brought forward by the disciples of Mr. Darwin applicable to the genesis of man were the Neanderthal skull and the jaw from Moulin-Quignon. The Neander skull was proved to be a curious pathological specimen, and the Moulin-Quignon jaw could not be accepted as authentic. There is no evidence whatever that ancient peoples approached the characters of the ape more than those which now exist. The lowest races—as, for instance, the Australian—possess characters far more Simian than any ancient remains yet brought forward by the disciples of Mr. Darwin. The differences observed in the various races, if not *ab origine*, must result from some continuously active, operative law, but that is not necessarily the same as the theory of natural selection. He was not prepared to accept Mr. Darwin's hypothesis as a ruling guide.

Professor BUSK did not agree with Mr. Carter Blake in his opinion on the jaw from Moulin-Quignon.

Mr. D. W. NASH wished to ask two questions: first, is it necessary, in starting a discussion on the origin of man, to assume either unity or diversity? Second, if such is the case, which opinion was the most philosophical? As “unity of force” is becoming the generally received opinion, from being the more philosophical, so in anthropology the tendency of opinion will be towards unity of origin. The object of the paper was to inquire whether Mr. Darwin's hypothesis had been properly applied, and not to discuss the origin of man.

Mr. WALLACE said that the object of the paper was to consider the use which had been made of Mr. Darwin's theory by some of his followers, and not to discuss the question of monogeny or polygeny. Darwin's theory, as far as it goes, may be considered as nearly proved as any theory can be. He never drew any proof from man, but that is no reason why the theory should not be applied to the human race. The chief points in Mr. Darwin's theory are: first, that certain species, if allowed to grow without restriction, would each of them soon fill the earth; second, that a struggle for existence takes place, that the stronger individuals live, and the weaker die out. If the theory be true of plants and the lower animals, it must be true of man also. Professor Vogt, though a follower of Mr. Darwin, does not believe that it necessarily follows that man must have sprung from one and the same origin. According to this theory—in which he did not believe—the various races of man may have sprung from different animals. He (Mr. Wallace) was of opinion that similarity in the mental characters of the different races, was far greater than their dissimilarity; that language, which can be acquired by every race, is a proof of mental unity. It is a mistake to imagine that Mr. Darwin considers climate the cause of the changes which he points out. It is doubtful whether all dogs have sprung from the same stock, but with pigeons there is no doubt that they have. In them, alterations of the skull are produced perfectly independent of changes of climate. He was of opinion that it is quite logical to believe that races have diverged from a common stock, and that they are now gradually again approaching each other. Different races are found in different

climates, because others could not live there. The type of any particular race was the cause of the selection of the locality in which it is found, and was not caused by the conditions under which the people live. The statement that man is becoming more homogeneous is quite correct. The weakest always goes to the wall, and as the most powerful races increase they will drive the weaker off the face of the earth. Why else do the New Zealanders die?

MR. REDDIE: This argument will not apply to the case of Europeans going to India and to Africa, though it may in the case of New Zealand and elsewhere.

MR. WALLACE: Those races which are best adapted for residence in a country will drive out the natives if they are weaker and less able to resist.

Dr. HUNT, in reply, said that he should be sorry to think that the audience did not understand the object of his paper better than some of the speakers appeared to do. He simply spoke of the application which had been made of a certain theory, and did not enter into the question of monogeny or polygeny. He wished people to keep their minds open on the question of the unity or diversity of origin of man; he believed it had been discussed much before the proper time. He strongly objected to the notion that in the present state of knowledge Darwin's theory must be accepted. At present we know absolutely nothing, and are not in a position to offer an opinion as to its correctness or otherwise. We have nothing to do with the question, "which is the most philosophical assumption?" Why should we give preference to one ape rather than to another? The Chairman had expressed an opinion that, because some races are dying out, therefore there must be a coming unity. But if Mr. Darwin's theory were true, there would be a constant tendency to diversity, and fresh races would constantly spring up. Though the standard of the new races might be higher and the physical differences less marked, yet intellectually they would become wider apart. He wished particularly to impress on the meeting, that in the present state of our knowledge, we are not in a position to offer any opinion as to the origin of man or his position in nature.

Dr. JOHN BEDDOE, *On the Stature and Bulk of the Irish, and on the Degeneration of Race.*

MR. C. C. BLAKE, *On Skulls from Round Barrows in Dorsetshire.*—Mr. C. C. Blake remarked that they were obtained by Dr. Hunt, the President of the Anthropological Society, from some barrows near Blandford. Dr. Thurnam, in a dissertation on the two principal forms of English and Gaulish skulls, gave a table containing the measurement of twenty-five skulls from the English round barrows. The longest of those exhibited a cephalic index of .74, and the shortest .87, the average being .81; and Dr. Thurnam therefore concluded that the typical character of the skulls found in round barrows was that which presented the brachycephalic type. When the skulls taken from the Blandford barrow were carefully measured, it appeared that the rate of breadth was much smaller than the average of those measured by Dr. Thurnam. Where Dr. Thurnam's lowest breadth was .74, the

lowest of the Blandford skulls was '66; and where his highest was '87, the highest of those from Blandford was '81, the average being in each case respectively '81 and '73. If the Blandford skulls (nine in number) were added to Dr. Thurnam's table of twenty-five, the average of the whole thirty-four would be found to be '77. The distinction between an average of '81 and '77 must strike all observers, and some might consider the deduction of four per cent. as invalidating many of the general conclusions arrived at by Dr. Thurnam. If Mr. Blake were inclined to base any conclusions on his measurements, he might reverse Dr. Thurnam's "sort of axiom", and say "long barrows, long skulls; round barrows, long skulls too, and sometimes longer". A description of the skull would follow at another time, and the conclusions he would draw at present were as follow:—1st. That the state of materials at disposal precluded any generalisation as to the prevalence of a brachycephalic type of the skull in the round barrows of the south of England. 2nd. That a much larger series of skulls from the round, as well as from the long barrows, must be measured before any conclusion could be arrived at as to the *cranial modulus*.

Dr. HUNT said there had been a large number of round barrows opened in Dorsetshire, and a good many urns had been found, but anthropology was in such a state that it had not been thought worth while to take care of the skulls. He met with a gentleman who was in possession of some skulls, and prevailed upon him to part with them for the Anthropological Society. The subject of the connection of the classes of people to whom they owed the round and long barrows found all over Europe had excited great interest. He thought the theory of Dr. Thurnam, that in round barrows there were round skulls, and long skulls in long barrows, was prematurely advanced. The opinion of Dr. Barnard Davis was that a long and a round-headed people inhabited this country at the same time.

Mr. SEBASTIAN EVANS observed that Dr. Thurnam's axiom was so convenient a formula that it would be a pity to give it up until it had been clearly demonstrated to be erroneous, and this he thought had not yet been done. With one of the skulls exhibited were found some iron and Roman implements, and several of the other skulls were so similar, that there could be no reasonable doubt about their belonging to individuals of the same race. In all probability, therefore, the skulls exhibited were of a comparatively later date, well within the limits of the iron age. The round barrows and short skulls described by Dr. Thurnam, and on which he founded his hypothesis, belonged, he (Mr. Evans) believed, entirely to an earlier period, the bronze age. It was, therefore, still possible that Dr. Thurnam's theory might be true to this extent: that the long barrows were raised by a long-headed race; the earlier round barrows by a short-headed race; and the later round barrows by a third intrusive long-headed race, who might not impossibly be hereafter identified as the Belgæ mentioned by Cæsar as inhabiting the southern parts of the island.

After some remarks from Mr. Wesley, Mr. Blake briefly replied.

Mr. A. ERNST, *On the Anthropology of Caracas*. It was here re-

marked that it was difficult to give information concerning the number of inhabitants belonging to the mixed races, as all were "Ciudadanos", and the law did not recognise a difference of race. A difference, however, existed in society, and it would perhaps never completely disappear. There were all shades of colour, from the deepest black to the almost perfect white, so that colour was not a good criterion. There was more security in the hair, the tint of the nails, and the colour of the male sexual organs. The son of a white father and a Negro mother was called "mulatto", while the son of a similar father and an Indian mother was termed "zambo". When a man of mixed blood married a woman darker than himself, and his children thereby became further removed from the white tint, it was said to be *un salto atras* (a leap backwards). The mixed races were virtually the ruling part of the population, and no doubt would be for a long time.

Dr. SHORTT, *On the Habits and Manners of the Marvar Tribes of India*. The dress and mode of piercing the ear-lobes among the women, and the ceremony of installing the present rancee in the zemindary, were particularly dwelt upon.

Dr. E. B. BOGG, *On the Manners and Customs of the Fishing Indians of Vancouver's Island, chiefly as typified by the Sougish Tribe*.—The writer observed that the Sougish tribe, at once the smallest and most degraded, dwelt in and around Victoria, the capital of the island. Amongst other things, the language of the people was adverted to, the doctor describing it as a collection of K's and Q's, gurgled in the throat in a manner that would lead uninitiated persons to suppose that the speaker was about to vomit. Yet to that strange language they could give so peculiar an utterance, as to be heard for several miles through the silent forests. Her Majesty's ship *Deastation* went to the west coast to seize some Indians who had murdered an agent, and it was subsequently ascertained that the exact hour of its departure from Victoria and its destination were known to all the west coast tribes within four hours of the weighing of the anchor. The intelligence must have been communicated through the forest, from one tribe to another, as the distance was much too great for any other mode to have been adopted.

Dr. HUNT approved of the manner in which the paper had been written; the writer appeared to have observed closely and written down carefully what he had seen. There were one or two points about it which seemed so extraordinary, however, that he had great difficulty in believing them: such as the statement that the medicine man, on initiation, ate a dog alive. He should have been happy to hear how this had been accomplished.

Mr. GROOM NAPIER called attention to the statement that the Indians are able to make themselves heard at a distance of seven miles; it is usually believed that the human voice is not audible at a greater distance than one mile.

Rev. W. T. MARSH alluded to the statement that the swathing of their limbs increased their liness, a result which could not have been expected. He should be glad to hear whether any gentleman

present could speak from his own observation, whether such a result was met with in other tribes.

Mr. TYLOR considered the paper a valuable communication, and the information which it contained of much importance. The statements which it contained coincide very much with what others have said, though in some points the writer may have been misinformed. The loose-headed spear spoken of is found also in other parts of the world: on the eastern coast of Africa, in the Eastern Archipelago, and on the coasts of the whole of North America. The flotation which in other instances is only the loose shaft of the spear, in the present case is much increased by the addition of a seal-skin blown out. The fish-hook mentioned was an extraordinary contrivance, quite new to the description of savage fish-hooks. The ceremony of scalping represented in play among these Indians, is common in reality on the opposite side of the Rocky Mountains. It is curious if it is a relic of what was formerly done in earnest. The writer mentions a game of odds and evens; it is curious to observe how common games of this sort are all over the world, in some tribes they reach a high degree of complexity. The statement that a dog was eaten alive is open to question; but there can be no doubt that when the medicine man reappears he makes a rush at the warrior nearest to him and endeavours to bite a piece out of his arm. With regard to the statement that the voice is heard at a distance of seven miles, it sounds at first as if there had been some misapprehension. The language is the most unlikely of all in the world to be heard at a great distance. Experience shows that, at a distance, the consonants of a word are lost before the vowels, and that ultimately only the vowels are heard. The language of these Indians is made up almost entirely of consonants.

Dr. HUNT referred to an instance mentioned by Captain Parry, where the human voice was heard at a distance of seven miles under the peculiar atmospheric conditions of the Arctic Circle, and thought that similar conditions may exist in the case mentioned by Dr. Bopp.

Mr. DAVID MORRIS thought that the human voice might, after practice, be made audible at a great distance, and mentioned as an instance of the effect of practice in overcoming obstacles in making the voice audible, that in cotton mills, where the machinery entirely drowns the voice of inexperienced persons, he was able to make himself heard, by modifying his voice, at a distance of many yards. He was acquainted with a gentleman who was ordinarily almost stone deaf, who, when travelling by railway through a tunnel, could hear the lowest whisper. He had no difficulty in believing the writer's statement.

Mr. TYLOR said that in India some of the Pariah tribes, through force of circumstances, have acquired the power of making themselves heard at great distances. He could quite credit the correctness of the statement made by the author.

Dr. GRIERSON gave an account *On Certain Celts from Dumfriesshire*. One class consisted of perforated stones found in the locality, and many are hung up in byres and stables as a charm against witchcraft.

Another class was composed of stones not to be found in the district, and in some instances he believed not in the British Isles. The character and workmanship of these were very superior to the former. He concluded, therefore, that the two classes belonged to different races and periods.

Dr. HUNT doubted whether the celts differed from those found throughout Scandinavia. Danish investigators fixed the limits of the stone age as at least 5,000 years ago.

Mr. BLAKE said there evidently existed in early times modes of diffusion of stone from one place to another, for in Belgium 30,000 flint flakes and nuclei were found at the Trou de Chaleux, which must have been brought thirty miles, and pieces of felspar which must have been carried 180 miles.

The CHAIRMAN (Mr. Wallace) thought it was not surprising to find stones not indigenous to the locality, for savage tribes at the present day thought nothing of travelling several hundred miles to procure articles which they wanted.

Prof. LEITNER contributed *Some Papers from Lahore*.

Dr. E. P. HOUGHTON *On the Dyaks of Borneo*.

Mr. WALLACE said that although there was nothing new in the paper, there were many points worthy of discussion. As the author had had such a good opportunity of observing the fluctuation in the population, it was a pity he had not made more use of it. His own observation led him to believe that it was nearly stationary. There is such an abundance of food that little exertion is required to obtain as much as is required for sustenance; the population being small and almost stationary, there is little or no pressure on the means of subsistence, and so the chief stimulus to exertion is wanting. He believed that the small number of children born is probably owing to the hard work which the women have to go through, as in other savage tribes. Should the men be induced to relieve the women of their toil, and thus render the women more able to bear children, the best results may be expected.

Dr. HUNT knew that the author was most willing to do everything he could in the cause of science, particularly of anthropology; and he was sure that the matter had only to be properly brought before him for his attention to be given to it. With regard to the smallness of the families, it was the same with all tribes low in the scale of civilisation. In Europe we have an instance in the case of the Lapps. The average increase of population among the Norwegians is wonderfully small. The author had said that the Dyaks have a very vague idea of a future life; it has often been stated that all nations, however low they may be, have an idea of that state, but this has been well shewn to be incorrect by the Rev. Mr. Farrar.

Dr. GRIERSON cautioned the audience not to follow the last speaker.

Sir J. LUBBOCK fully agreed with Dr. Hunt. Even missionaries, who might not be expected to say so, stated that they were acquainted with tribes having no idea of a future state. With regard to the social condition of the Dyaks, he thought that we are too apt to fall into the error of the Greeks and Romans in calling other races barba-

rians because they differed from us. The truth is they have been forced into a different stage of civilisation, and many of them, the South Sea Islanders for instance, have made the most of their opportunities.

Mr. TYLOR said the paper had led to the discussion of a very interesting question which might be divided into two parts: 1. The belief in a future state; 2. The belief in the existence of a Superior Being. The usual belief among savage tribes is, that when a man dies his soul goes to another place. This is shewn in the custom of burying things with the dead, that their souls may go to be with that of the departed. It has frequently been found that races who were supposed not to believe in a future state or the existence of a Superior Being were possessed of an abstruse mythology. He believed that the way to state the case properly is to say, "formerly it was believed that many races had no knowledge of a future state or the existence of a Superior Being, but that the number of such has been reduced."

Mr. CARTER BLAKE thought that in discussing the subject, it was advisable to have a clear idea of what was meant when the term "religion" was used.

Dr. R. S. CHARNOCK said that we need not go to the ends of the earth to find people who do not believe in a future state. He knew many in England, "savages" he supposed, who did not.

Mr. WALLACE. The question of population resolves itself into two parts: 1. What is the number of children born? 2. What is the number who grow up? He thought it important to make this distinction, as he believed the rate of mortality among children was very high. Over-work has probably a great deal to do with the small number of children born; it has been found that Malay women, who are better treated, have a larger number of children.

In discussing the question of religion, care should be taken against considering the belief of the whole tribe to be the same as that of a single individual member of it. His own opinion was that tribes do exist who have no idea of anything beyond the grave. Sir S. Baker related his conversation with a Latuka chief, who argued that when a man dies there is an end of him. He, Mr. Wallace, was of opinion that all races believe in the existence of unseen things.

Dr. PAUL BROCA *On the Anthropology of Lower Brittany*.—Contended that there were two races in France, one tall, the other short, the line of separation corresponding to that which in the time of Cæsar divided Celtic from Belgic Gaul. The inhabitants of the cantons of the latter were short in stature, and of a type corresponding to the Cornish.

Mr. SEBASTIAN EVANS agreed with M. Broca in believing that the sea air had nothing to do with modifying the physique of dwellers on the coast, but thought that hardly sufficient importance had been assigned to the influence of a military sea-faring life on the stature of a people. At all events, if it could not be conclusively proved that the two circumstances were related, it was remarkable that the Bas-Bretons were taller than their neighbours though closely allied in

kindred, and that the Bas-Bretons were descendants of the Veneti, who had lived by piracy and buccaneering for centuries before the time of Caesar. Going northward again the same phenomenon recurred. As soon as the traveller came to those parts of France to which the Norman invasion had penetrated, a distinct increase in stature was perceptible. The Normans when they marched under Rollo to occupy the fair fields of Neustria, were the biggest of limb and strongest of thew of any nation on the face of the earth. They were the lineal descendants of the Vikings—those terrible Scandinavian sea-rovers who more than any other race had made their home upon the ocean. On the deck of the Norse pirate-ship, the strong arm, the keen eye, the stout heart, were indispensable requisites of the sailor. All the puny, ricketty, cowardly individuals got killed off, and they who survived to perpetuate the race were the strongest of muscle and longest of limb. This process had been going on for a thousand years before Rollo marched southward. Nor should it be forgotten that these old rovers visited every shore of the known world, and carried off from thence the fairest and tallest of the daughters of the land to be the mothers of their children. Sea air in itself might have no influence on race characteristics, but a thousand years of piratical national life, and a constant influx of fresh blood could not fail to affect materially the physique of a people.

Professor HUXLEY protested against this application of the principle of natural selection. He had lived long on board ship, and believed that to those who had to pass their lives in a low-roofed cabin it would be an advantage to be short rather than tall. Maritime people are not always tall, as, for instance, the Basque race in Europe and the Malays in Asia, the latter of whom average only 5 ft. 3 ins. in height.

Mr. EVANS explained that the Scandinavian sailors would hardly have been inconvenienced in the same way as Mr. Huxley, inasmuch as they had no cabins at all, and that the maritime nation referred to by the Professor were commercial rather than military, or if military fighting under different conditions to the Norsemen, which would account for the difference in the result.

Mr. MOGGRIDGE instanced the Dutch as being anything but tall; they are in fact short, round, and dumpy.

Mr. FLOWER: Harold of Norway was unable to ride on any horse, his legs were so very long.

Mr. WALLACE did not see that the subject under discussion afforded any evidence in favour of the doctrine of natural selection.

Rev. F. W. FARRAR, in reference to the stature of the people of Brittany, drew attention to the statement that the flower of the French nation had been slain during the wars of Napoleon. He thought that perhaps the fact that boys of eighteen were then pressed into the army, and had to go through great privations, would in some measure at least account for the short stature of modern Frenchmen.

Professor HUXLEY on *Two Extreme Forms of Human Crania*.—The crania exhibited were:—1st. The skull of an adult Tartar, from the

museum of the Royal College of Surgeons of London, the most brachycephalic he had ever seen, the breadth in comparison with the length presenting the extraordinary proportions of 977 to 1,000. This skull was orthognathic. 2nd. An instance of extreme dolichocephaly which was said to have come from New Zealand, but of this he was doubtful, as in some particulars it possessed characters of the Australian type; but for the purpose of his communication it was of no moment where it came from. It presented the extraordinary proportions of 629 of breadth to 1,000 of length. Prognathism in this skull was very decided. The roof of the first was arched and dome-like, and the contour was almost semicircular, while that of the second was compressed at the sides similar to the roof of a house. Although the difference in general contour was in these skulls so great, the cranial axis of the one was the same length as that of the other, a fact which showed that length of the cranial axis has no absolute relation to the absolute length or breadth of the skull. The angle of the sphenoid bone has been said to give the character of the face—the more bent the sphenoid bone, that is to say, the smaller the sphenoid angle, the more perpendicular is the position of the teeth; the larger the sphenoid angle the greater the obliquity of the incisors by the enlargement of the facial bones. But in these two skulls Professor Huxley was of opinion that the sphenoid angle was the same, so that this point might be eliminated from the discussion as unimportant. But the moment the outline of the one was superposed upon the other it was apparent that although these important portions of the skull were the same in both, the parts adjoining were arranged so differently as to entirely alter the general outline. The plane of the occipital foramen was much more horizontal in the New Zealand (?) skull than in the Tartar. If the plane of the occipital foramen of the former were the same as that of the latter the degree of prognathism would be much greater, were the plane of the occipital foramen of the Tartar skull the same as that of the New Zealand (?) skull the orthognathism would be so great that the brow would overhang the face. These various points, the similarity of the sphenoid angle and the difference in the plane of the occipital foramen shew the importance of making a section through crania previous to expressing an opinion on them. The next point on which these skulls throw light was the effect which synostosis of the sutures was supposed to have in altering the form of the skull. Virchow pointed out that if the sutures become closed in early life the skull does not expand in the direction at right angles to the suture. If the sutures remain open while the brain is growing, synostosis at a later period is of no consequence as it does not alter the shape of the skull. Those who have worked at the subject finding a synostosis have argued back without thinking of this. The importance of attending to the time at which synostosis took place was exemplified in one of the skulls exhibited, that of the Tartar. Complete synostosis along the sagittal suture had taken place probably at an early period of life, as the others were all open, and yet the breadth in comparison to the length was in that skull unusually great. The brow was so full as to hide the jugal arches from a vertical view,

although the face bones were of full size. While in the other skull in which no synostosis had taken place the head was unusually long, the brow narrow, and the cheek-bones, though not large, were visible from above. The points to which he particularly wished to call attention were:—I. Early synostosis may order without alteration in the shape of the cranium. II. Extreme forms of the skull may be produced without synostosis. III. A correct idea of the relative proportions of a skull cannot be obtained without first of all making a section through it.

Mr. WM. TURNER said that he had two skulls in his possession which would bear out the peculiarities of those exhibited. One of them, that of a Bohemian, was remarkably brachycephalic, though the sagittal suture was obliterated. This was all the more remarkable because it was the skull of a young person not more than twenty-one years old—an age when that suture is usually open. The other from Lincolnshire was remarkably elongated, with all the sutures open. This independent evidence confirmed the opinions put forth by Professor Huxley. The subject of synostosis and the effects resulting from it should be carefully reconsidered.

Mr. SEBASTIAN EVANS wished to know whether there were any marks of external artificial compression visible in either of the skulls exhibited.

Professor HUXLEY: No, none at all.

Mr. CARTER BLAKE said that it could not be denied that Professor Huxley had laid before them two skulls which offered peculiarities, so far as he knew himself, unexampled. The one—that which Professor Huxley had referred to as possessing an index of '62—he considered to belong to the same type of skulls as those which Dr. Barnard Davis had described for the Caroline Islands. It might certainly, on the other hand, be Australian, for the characters of the race skull of that continent were not well fixed. Certainly, it disagreed from the skulls of such typical "tectocephalic" skulls, as those figured by Ecker, and also with those of a more flattened type, which Professor Huxley had himself compared with river bed skulls. It accorded both in the character of extreme length and extreme narrowness with the skulls of the Caroline Islanders. As for the other skull, whose index was '97, Mr. Blake thought it not one of those cases which could be cited as an example of the fair normal skull, for there was a depression along the lambroid suture which he thought was due to vertical *déprimation par derrière*; there was a distinct depression along the posterior part of the sagittal suture, which had a tendency to produce a *bilobation transverse*, similar in kind, though less in degree than that exhibited in the skulls from *Sacrificios*. Then there was also evidence of a constricting force having operated around the line of the coronal suture, which force had in part produced a tendency towards the *tête annulaire* of Foville. These abnormal causes had rendered equable expansion of the skull impossible, and the result was a tendency shown around the alispheroid sutures to enlarge in a transverse direction to the longitudinal axis of the skull. With regard to Virchow's law, Professor Huxley and Mr. Turner seemed to have two specimens which contradicted it, if applied exactly; yet hundreds

of specimens might be shown on the other side. He, however, admitted that the facts laid on the table by Professor Huxley were amongst the most interesting which had been discovered for many years.

Dr. BARNARD DAVIS said, in reference to Professor Huxley's opinion, that if synostosis of the parietals occasioned dolichocephalism in one case, it must necessarily do so in all cases, he could assure him that this was altogether a mistake; it was neither a universal, nor even the usual result. He had in his collection about thirty skulls in which the sagittal suture is ossified, and not so many as one-third of these have been elongated, or otherwise deformed. Indeed, the shortest skull in the entire collection, that of a Pokomame from Guatemala—shorter than even the Tartar exhibited—has an entire obliteration of the sagittal suture. This skull has been artificially compressed. Hence it is plain no such absolute law exists as that propounded, and other elements must enter into the condition where dolichocephalism is the result of synostosis.

Professor HUXLEY, in reply, said that he was glad to have elicited the fact that synostosis may occur early in life without producing alteration in the shape of the skull. He believed it was not possible to say at what period synostosis had taken place, when it was observed in the cranium of a full-grown person. It was, therefore, not possible to say whether peculiarities observed in a skull with any of the sutures ossified belonged to the skull itself, the synostosis being merely accidental, or whether they were the result of the closing of the sutures. Mr. Blake said that, in his opinion, the skull said to be that of a New Zealander came in reality from New Caledonia. This opened a question of much importance. He had observed that the Australian *facies* extended over a great part of Polynesia. He considered it impossible to distinguish between an Australian and a New Caledonian skull. Before sitting down, he wished to call particular attention to a new publication being brought out in Germany, entitled *Archives of Anthropology*.

On the proposition of Dr. Hunt, the thanks of the meeting were cordially voted to Professor Huxley, for his important communication.

Dr. JAMES HUNT communicated the result of observations made on cases of *modern Norwegians*. The cranial measurements of the majority of the cases indicated that the form of the skull in the Norwegians is much rounder than had hitherto been supposed. The average height of seventy-eight cases of males was 5 feet 8 inches. The hair in the majority of cases was light brown, and the eyes light blue. The author contended that there was no such thing as a Norse race, the races inhabiting that country differing quite as much, if not more, than any inhabiting this country. The author gave some details of his examination of Swedes and Lapps, and concluded by urging the desirability of not confusing the inhabitants of Norway and Sweden.

Mr. W. BOLLAERT *On Ancient Peruvian Hieroglyphics, including the recently discovered Figured Writing.*

Mr. WALLACE said, that throughout the Valley of the Amazon, wherever granite was found in such a position that it could be marked,

rude sketches of canoes, animals, implements and utensils were cut in it. It is remarkable that they should be cut in granite deep enough to be permanent. It would indeed be odd if all that trouble had been taken if they were not intended as a record.

J. PLANT, Esq., F.G.S., *On Evidences of Pre-historic Man, from Pooles Cavern.*

Dr. FAIRBANK said that the remains referred to in this paper resembled those found in other caverns in the same locality, and are supposed to belong to the late Roman and early Anglo-Saxon periods. A systematic exploration of this cavern will, he hoped, be one of the first undertakings of the recently founded Manchester Branch of the Anthropological Society of London; the result of which will be made known either through the Society's Transactions or at the next meeting of the Association.

Consul T. J. HUTCHINSON, *On the Indians of the Paraná.*

JOHN COLLINSON, Esq., *On the Indians of the Mosquito Territory.*

A. H. W. INGRAM, Esq., *On a Slate Armlet.*

J. W. FLOWER, Esq., *On a Kjökkenmödding in the Island of Herm.*

SIR EDWARD BELCHER, *On the Stone Weapons and Ornaments of the Esquimaux.*

Dr. MANN, *On the Mental and Moral Characteristics of the Zulu Kaffirs of Natal.*

S. PHILLIPS DAY, Esq., *On the Power of Rearing Children among Savage Tribes.*

Dr. GUSTAVE LAGNEAU, *On the Sarrazins in France.*

Professor TENNANT, *On the Traces of an Irish Lake Dwelling found by Captain L'Estrange.*

J. PRIGG, Esq., junior, *On Flint Implements from Drift of Little Ouse Valley.*

W. BOLLAEERT, Esq., and Professor RAIMONDY, *On Ancient Engravings on Stone, Southern Peru.*

C. CARTER BLAKE, Esq., F.G.S., *On a Condylus Tertius.*

J. ANDERSON, Esq., *On Recent Explorations in Chambered Cairns of Caithness.*

C. S. WAKE, *On Antiquity of Man in Relation to Comparative Geology.*

Many papers were read in abstract, as there was neither time for reading them at length nor discussing them. This was especially the case the last day. The uncertainty as to the appointment of a Department rendered many authors of papers unable to send them in until the last moment. These papers will, however, be read before the Anthropological Society, and we need not therefore again revert to them. The interest of the Department was becoming greater every day, and much satisfaction was expressed on all sides at the amount of work done. After a complimentary vote of thanks to the President, moved by Sir John Lubbock and seconded by Dr. James Hunt, the Department was adjourned by Mr. Wallace to Dundee in September 1867.

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